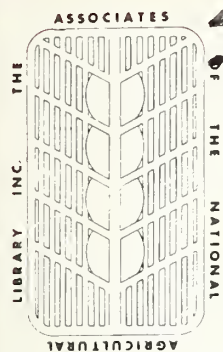


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



Z 733
N3A 72
copy
3

ASSOCIATES NATIONAL TODAY

NEW SERIES VOL. 3, NOS. 3/4

JULY/DECEMBER 1978



FORESTRY AND AGRICULTURE

The Associates of the National Agricultural
Library, Inc. Beltsville, MD 20705

EDITORIAL COMMITTEE

Editors: *Alan Fusonie and Leila Moran*
Managing Editor: *Donna Mason*
Editorial Consultant: *Angelina J. Carabelli*

Advertising Editor: *Charles Gilreath*
Ex Officio NAL Contributing Editors:

Boba Stamenkovich, Judy Ho, Jeanne Holmes

Departmental Editors:

New Acquisitions: *Elizabeth Whiting, Technical Information Systems, Science and Education Administration*

Book Reviews: *Tom Fulton, Economics, Statistics, and Cooperatives Service, USDA*

Publications and News of Note: *Judy Ho, Technical Information Systems, Science and Education Administration, USDA*

Legislation of Note: *David Hoyt, Technical Information Systems, Science and Education Administration, USDA*

Indexing: *Irene Glennon, Technical Information Systems, Science and Education Administration, USDA*

ADVISORY EDITORIAL BOARD

William Dagger, Canada Department of Agriculture

William Dando, North Dakota State University, Fargo

Robert Kiger, Hunt Botanical Institute

Leo Mayer, Congressional Research Service, Library of Congress

Trudy Peterson, National Archives
John Schlebecker, Smithsonian Institution

Walter Rundell, Jr., University of Maryland

Gregory Stiverson, Maryland Hall of Records

Stanley Yates, Special Collections, Iowa State University

Wayne Rasmussen, U.S. Department of Agriculture

COMMITTEE CHAIRMAN

Awards: *Barbara Williams*

Nominating: *Wayne D. Rasmussen*

Cover photo: Mount Rainier,
Washington (Courtesy,
National Park Service)

OFFICERS

President: *C. S. Shaffner*

Vice-President: *Ted C. Byerly*

Treasurer: *Harry C. Trelogan*

Recording Secretary: *Vivian Wiser*

Executive Secretary: *Leila Moran*

Immediate Past President: *Charles E. Kellogg*

Personal Membership Representative:

Patrick J. Brennan

Ex Officio Members of the Board of

Directors: *Joseph Swab (1975-78),*

Larry Calyn (1977-79), Nancy Lewis (1978-80)

Associates NAL Today is mailed free to members of The Associates NAL, Inc. In addition to underwriting the cost of this quarterly journal, The Associates publish occasional monographs, sponsor symposiums, and initiate projects designed to supplement programs of the National Agricultural Library. Readers are cordially invited to join The Associates NAL, Inc., to receive these publications and participate in these activities. Categories of membership: Personal, \$10; Business, \$500; Institutional, \$100; NAL staff members (nonvoting), \$5. Please make your check payable to The Associates NAL, Inc., 10301 Baltimore Boulevard, Beltsville, MD 20705.

Single copies of *Associates NAL Today* are available at \$5 per copy.

MANUSCRIPTS

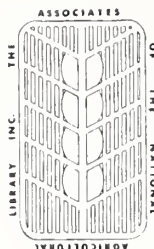
1. One copy should be sent to
Alan Fusonie
National Agricultural Library
Building
Beltsville, MD 20705
2. Submission of illustrations is encouraged; authors are responsible for obtaining copyright permission.
3. Manuscripts should be typed, double-space. Authors should follow the guidelines set forth in the University of Chicago Press *Manual of Style*, 12th edition.

CONTENTS

Foreword, <i>Richard A. Farley</i>	70
Introduction, <i>Gerald Ogden</i> , Guest Editor	71
The Forest Service: Conserver of American Forests, <i>John R. McGuire</i>	72
The Society of American Foresters, <i>Dan Mezibov and</i> <i>Luke Popovich</i>	77
The American Forestry Association, <i>Henry Clepper</i>	81
Cooperative Effort in the Development of Forestry in the West, <i>Steele Barnett</i>	85
Forest Farmers Association: A Voice for Southern Timber Resources, <i>J. Walter Myers, Jr.</i>	89
Public Action in Forestry: The Society for the Protection of New Hampshire Forests, <i>Gerald Ogden and Leslie S. Clark</i>	92
Forestry Research: Forest Service, USDA, <i>edited extracts</i>	97
Searching for Forestry Information by Computer: Selective Gleanings, <i>Harry Kemp</i>	99
New Acquisitions, <i>Elizabeth Whiting</i>	103
Book Reviews, <i>Tom Fulton</i>	105
Publications and News of Note, <i>Judi Ho</i>	111
Legislation of Note, <i>David Hoyt</i>	114

© The Associates of the National Agricultural Library, Inc., 1978.
Published quarterly. Material protected by this copyright may be
photocopied for the non-commercial purpose of scholarship or research.

(Illustrations in this issue are from early issues of the *American
Agriculturist* and from selected titles in the Rare Book Collection,
National Agricultural Library) (Courtesy, National Agricultural
Library, Rare Book Collection).



FOREWORD

The importance of forestry as a part of agriculture first received supportive federal encouragement from Commissioner of Agriculture, Frederick Watts (1871-1877). Under his administration, George Vasey, with the assistance of his fellow botanists in the Department of Agriculture, collected sections and botanical specimens representative of the trees of the United States. An exhibition of this material was placed on display at the Centennial Exposition in 1876.

The Annual Report of the U.S. Department of Agriculture for 1875 included a catalog entitled "Forest-Trees of the United States," as well as an extensive section on the "Statistics of Forestry." In terms of early forest pioneers, the art and science of forestry today is the outgrowth of the efforts of dedicated foresters such as Bernard Edward Fernow (1851-1923), Gifford Pinchot (1865-1946), Carl Alvin Schenck (1868-1955), and others. The holdings of NAL which relate to forestry reflect not only the progress made through the years but also the highly sophisticated forest management activities of many organizations on both private and public lands.

Again, I compliment the Associates NAL, Inc. for publishing these eight papers which focus upon the selected case histories of organizations important to the growth of forestry.

Richard A. Farley
*Deputy Director for
Technical Information Systems
of the Science & Education
Administration
U.S. Department of Agriculture*



*(American Agriculturist,
August 1861)*



America is a land of vast and abundant resources; however, a multiplying population blessed with affluency and coupled with a seemingly inexhaustible appetite for consumption, makes great demands upon her resource base. With the increasing demands, therefore, it is not surprising that supplies are becoming scarce. Generation by generation if not decade by decade, crises occur as supplies once deemed inexhaustible become depleted. As a result, prices of commodities rise, consumers become irritated, special interest groups become critical of exploitative practices, and, often too late, legislation is enacted in an attempt to solve long standing but complex problems.

Historical evidence supports the thesis that such a chain of events has repeated itself countless times since the nation's founding. Yet, like other happenings in history, the progression is not inevitable. Variables often enter the mainstream of history that intercede and change its conduct. Such has been the case in the use of the country's forest resources.

Statistics best substantiate the story of forest land utilization in the United States for the past three and three quarter centuries. At the time of the settling of the country, there was a total of more than three million square miles of land in the continental United States; of these, forests and woodlands covered nearly 1.35 million square miles or slightly over 870 million acres. By 1890, however, forests and woodlands covered an estimated 524 million acres; unfortunately, only a fraction of this acreage was protected or reserved by state laws, and none by federal laws. At this time little attention was given to the fact that forests were a renewable resource, hence no legislative action was taken to protect forest lands for the future. Over one-half billion acres of forest lands, however, many of which contained virgin stands, remained open to loggers, prompting continued uncontrolled harvesting.

Despite the numerous factors retarding its immediate establishment, a forest conservation ethic did develop and grow. Originally inspired by horticulturists, botanists, and persons in allied fields, the idea was encouraged by the transfer of forest conservation concepts from Europe to America. Soon the infant conservation movement was joined by middle-class urban dwellers and others who desired to see some quality of life returned to a nation bent upon industrialization. To many, the term "quality of life" often meant the preservation of the forests which were used as recreation sites as well as for hunting and fishing.

In the area of forest conservation, some old-line associations such as the American Forestry Association, the Society for the Protection of New Hampshire Forests, and the Western Forestry and Conservation Association to name a few, remain as viable today as they were when they were first formed in the 19th and early 20th centuries. In their histories can be found the multiple developments that have taken place in forest conservation in this country.

Forest history in the United States can also be traced through the formation and development of more special-

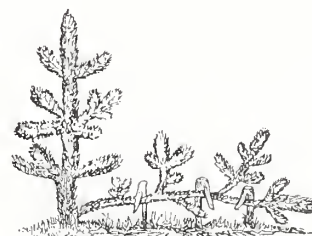
ized bodies. For example, the Society of American Foresters inspired by Gifford Pinchot is the leading body of professional foresters while the southern-born Forest Farmers Association is a regional group of timberland owners. Together they represent, in a token way, the nation's professional-industrial side of forestry. Like the conservation groups, they, too, have an interest in forestry conservation. Their attitudes, however, being proscribed by professionalism and the economics of forestry, are governed more by their interest in land management and the proper utilization of forest resources as they impact on the market.

Today, nearly 188 million acres of national forest lands are managed by the federal government and an unspecified number of acres by state governments with the advice of foresters. Working within the state and private forestry program, individual woodlands owners apply management for profit and industrial forestry, especially with the tree farm movement, has taken great strides.

This issue of *Associates NAL Today* is intended to examine the growth of forestry in America by presenting case histories of organizations which involved themselves in and contributed to its growth. Each group represented herein has been especially selected by the editor to represent the many similar organizations existing throughout the nation. Regrettably, space limitations prohibited the inclusion of additional articles and some notable groups, although invited to contribute, did not do so.

Yet each of the major areas of the forestry complex is represented: government foresters by the Forest Service, USDA; industry by the Forest Farmers Association and the Western Forestry and Conservation Association; conservation groups by the American Forestry Association and the Society for the Protection of New Hampshire Forests, and professional foresters by the Society of American Foresters. Two additional articles have also been included which enhance this edition. One covers, briefly, the contribution of research to forestry and the other computerized information systems.

Gerald R. Ogden
Historian
U.S. Department of Agriculture



(*Amer. Agric.*, February 1863)

THE FOREST SERVICE; CONSERVER OF
AMERICA'S FORESTS

by

John R. McGuire*

America has been blessed with an abundance of renewable natural resources. Our resources rank among the most important elements in the development of this great nation. The nation also has another great national resource, the American people. This country is a testimonial to the successful bonding of human talent and effort with nature's abundance for the benefits of both man and nature. The alliance between man and nature, however, did not evolve overnight, nor was it an easy process to achieve. The Forest Service, U.S. Department of Agriculture, has been one of the motivating forces behind this uneasy alliance. Over the years, the Forest Service has been charged with leadership in American forestry through cooperation between State and private landowners, advances in timber and wood products research, and management of the National Forests for continued public services and benefits.

When the first settlers arrived on these shores, they were greeted by huge dark forests that formed a barrier against cultivating the land. The forest also provided a hiding place for wild animals and Indians that the settlers feared. However, wood from the forest trees did provide fuel for the hearth and lumber for houses and other buildings. Wildlife, nuts, and berries from the forest provided food. But these benefits weren't enough to overcome the feeling that nature was a formidable opponent that must be conquered. The process of bringing nature to its knees was not only materially beneficial for immediate needs but was also, for the most part, extravagant and shortsighted. Since the resources appeared inexhaustible, forests were cut and allowed to burn without thought of regeneration, farms were abandoned when the soil wore out, wildlife was slaughtered. Sheer abundance led to monumental waste. Future generations of Americans might be impressed with the prodigious growth of the new country, but that would be small consolation if the natural resources responsible for that growth had been destroyed. By the late 1800's, a conservation movement began to take shape; following the turn of the century it reached a peak and caused this country to look ahead. It helped make Americans realize that the natural resource base responsible for the country's great growth could not continue to take the abuse of the previous two centuries.

The first step in the formation of the conservation movement came when the public began to recognize the importance of forest cover for flood control and for recreational and aesthetic purposes.¹ A number of state forestry boards and other public and private conservation groups were formed whose efforts increased public awareness of the need for a national forest conservation program in the United States. Congress responded to the growing conservation movement by creating Yellowstone Park in 1872. Nearly two million acres were withdrawn from settlement and sale and dedicated as a public park for recreation for the people.² The federal government's direct involvement with forestry began four years later when a rider was attached to a general appropriations bill authorizing \$2,000 to support a forestry study. The money for the study was neatly hidden away as seed distribution money for the Department of Agriculture.³ Franklin B. Hough was appointed special agent for the Department of Agriculture in the newly established Division of Forestry to carry out the study. Hough's findings,

published in three volumes and submitted to Congress between 1878 and 1883, emphasized the beneficial effects of forest cover on climate, stream flow and soil, and pointed out the negative effects of forest removal. In 1878, Congress passed the Free Timber Act and the Timber and Stone Act, which provided the first legal distinction between timberlands and other lands. Specifically, the Free Timber Act gave the inhabitants of nine western States the right to cut timber at will on mineral lands for domestic and mining purposes while the Timber and Stone Act authorized the sale of public land, chiefly valuable for timber, but unfit for agriculture and not previously offered for sale. However, the provisions of these laws proved impractical and unenforceable. They led to unprecedented fraud and wholesale forest cutting and destruction. In one case, for example, the government sought reimbursement for the value of 60 million board feet of high-grade timber stolen from public lands by a single California company. Reports of this type of fraud led to a growing fear among the public, especially in the East, that our timber resources were being consumed at a disastrous rate. This fear eventually led to the Forest Reserve Act of 1891.⁴

This Act authorized the President to withdraw portions of the public domain and designate them as "Forest Reserves." It made no provisions for management and use of the reserves for timber cutting, grazing, mining, or any other uses; they were simply closed areas. By the time President Benjamin Harrison had completed his term in office, he had set aside 13 million acres of Forest Reserves. These were the beginnings of an organized system of national public forests. Under the next President, Grover Cleveland, two more reserves were established. Cleveland then refused to withdraw any more land until Congress made provisions for the administration of existing reserves. In 1896, the Secretary of the Interior appointed a panel of seven experts to report on questions relating to protection and use of the reserves. The National Forest Commission, as the panel became known, recommended the establishment of 13 additional reserves and the establishment of an administrative agency to oversee the reserves, to create fire protection programs, and to regulate grazing, mining, and removal of timber. Cleveland was so impressed by these recommendations that he set aside more reserves totalling 21 million acres. His action caused an immediate storm of protest from the West, where mining and lumbering interests said their operations would be stopped by the withdrawal of such huge parcels of land.

The subsequent battles between the conservation advocates who supported the Commission's report and Cleveland's actions, and the western mining and lumber interests who feared for their livelihood, paved the way for the passage of the Organic Administration Act of 1897.⁵ Under the provisions of this Act, land classification within the forest reserves could be changed, and land suited for agricultural or mining purposes could be returned to the public domain. The policy of allowing settlers, miners, and local residents the free use of timber for domestic purposes was continued. In addition, the Act directed that the reserves be administered to improve and protect them, to aid in the control of waterflow, and to assist in furnishing timber. The Secretary of the Interior was authorized to draw up regulations for governing the use and occupancy of the reserves, for regulating their protection, and for the appraisal and selling of timber.

The Forest Reserve Act of 1891 and the Organic Administration Act of 1897 became the foundations for change in American land policy. Then, as never before, the federal government was committed to a policy of withdrawing land from the public domain and reserving it

*John R. McGuire is Chief, Forest Service, USDA.

for purposes which served the public. The Organic Administration Act did have its weakness, however, and once again there was a loophole that enabled land fraud to flourish. The "forest-in-lieu" section allowed settlers or owners of undeveloped land to abandon their tracts within the reserves. "In lieu" of their abandoned tracts, they could select vacant land open to settlement which equaled the acreage of their abandoned lands. The General Land Office, Department of the Interior, assumed administrative duties over the forest reserves. Since the Land Office employed no foresters, most of its duties were related to disposing of public land rather than actively administering the reserves. Widespread abuse of the forest-in-lieu section caused great problems for the Land Office and, by the turn of the century, it was under heavy fire for aiding and abetting this abuse by planning for additional reserves in areas where railroads had large holdings.

One of the Land Office's biggest critics was Gifford Pinchot, who headed the Division of Forestry in the Department of Agriculture. Pinchot was the first American-born, technically-trained forester in the United States. Before he became head of the Division of Forestry, he developed a forest plan for the Vanderbilt estate in North Carolina. There he introduced selective logging, planned reproduction, trespass control, and removal of defective trees. When Pinchot arrived at the Division in 1898, it was small and relatively unknown. In his book *Breaking New Ground*, Pinchot wrote:

We had few friends. As yet we were not even important enough to have active enemies. Where public opinion was favorable, it was ineffective. Where it was effective, it was unfavorable. For the most part the great public knew nothing about us and cared less.⁶

The first order of business as Pinchot saw it was to build a favorable reputation for the Division. He surrounded himself with talented young men who encouraged and supported forest conservation. Since they had no land to administer, their work was largely in the fields of research and cooperation with private forest landowners. Slowly the Division, which in 1901 was renamed the Bureau of Forestry, began building a strong constituency. As its popularity increased, that of the General Land Office decreased, which was what Pinchot wanted since long before he became head of the Bureau, Pinchot had his sights set on the forest reserves.⁷ Gaining jurisdiction over the reserves, however, would not be easy, despite the support of President Theodore Roosevelt and Secretary of the Interior Hitchcock. Western representatives in Congress were opposed to the reserves in general and Pinchot in particular.⁸ Officially, the transfer was opposed on grounds of inefficiency and potential inter-departmental friction. The real reason, however, was that every acre of the reserves was potentially mineral in character and the proposed dilution of jurisdiction could increase the difficulty in settling disputes.⁹ But in 1905 Pinchot won, and the 85.6 million acres of forest reserves (later to be known as National Forests) were transferred to the Department of Agriculture. On July 1 of the same year, the Bureau of Forestry officially became the Forest Service.

In a letter from the Secretary of Agriculture, James Wilson, to Chief Forester Pinchot, the guidelines for administering the public forests were set forth. A few lines from this letter express the basic policies under which the National Forests were, and continue to be, administered.

. . . it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole

people and not for the temporary benefit of individuals or companies. . . .

. . . When conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good for the greatest number in the long run.¹⁰

With the transfer of the forest reserves to the Department of Agriculture, the federal government's responsibilities in public forest administration, in cooperative work both with states and private individuals, and in forest research became the responsibility of the Forest Service. These three areas still remain the major fields of Forest Service activity today.

One of the unique aspects of the Forest Service is its highly decentralized administration. Pinchot felt that because of the variety of forest regions, on-site supervision was essential to effective management and uniform rules administered at great distances would not work. After the transfer, the first job, as Pinchot saw it, was to handle the forest reserves wisely and well. The next order of business was to bring the administration of the reserves closer to the people. Said Pinchot, ". . . we must do business honestly and promptly, yet without neglecting any of the necessary safeguards."¹¹

On June 13, 1905, the Forest Service presented for approval to the Secretary of Agriculture a small pocket-sized volume of regulations and instructions to govern the forest reserves. This volume, entitled *The Use of the National Forest Reserves*, was a forerunner of the current *Forest Service Manual* and was given to every Forest Service employee to be used as a guide in doing his job. Its spirit and purpose is clearly stated in the preface:

To the Public, the timber, water, pasture, mineral, and other resources of the forest reserves are for the use of the people . . . There are three chief duties: To protect the reserves against fire, to assist the people in their use, and to see that they [reserves] are properly used.¹²

Under Theodore Roosevelt's Administration, the Forest Service took on new responsibilities in federal forest management. For the first time, scientific techniques of forestry management were applied on a large scale basis in the United States. Large areas of burned-over land needed planting, and the Forest Service did much of the early work in developing nurseries and planting trees in large numbers. In an attempt to bring about orderly use of badly over-grazed ranges, the Forest Service was entering a new and unknown field. By 1907, the Forest Service experimented with range seeding as well as sheep grazing within coyote-proof fencing and deferred rotation grazing.

Other research was also greatly expanded. The Forest Products Laboratory was established in 1910 in cooperation with the University of Wisconsin. Originally developed for timber testing work, the Laboratory has made numerous contributions in wood products utilization. The Laboratory led the way in the use of wood and wood preservatives, in opening new sources of raw material and new technical processes for making lumber, pulp, and paper. Also in 1910, a new Chief Forester was appointed to the Forest Service. Roosevelt had left office and William Howard Taft had succeeded him. Taft fired Pinchot for publicly attacking Secretary of Interior Richard Bellinger's handling of mineral leases on public lands in Alaska.¹³ Pinchot, however, left an indelible impression that in many cases continues to guide the Forest Service.

Henry Graves, Dean of Forestry at Yale University and a close friend of Pinchot's, became the new Chief Forester. With his appointment, the tradition of naming only professional foresters as Chiefs of the Forest Service was begun. Under Graves' direction, the Forest Service began building a system to control disastrous fires that raged across public and private forests. The trails, roads, and lookout towers built under this program formed the foundation for a sophisticated national fire control network.¹⁴

Meanwhile, Congress was feeling increased pressure from the public to establish National Forests in the East. Forests in New England and the South had been cut over, burned, eroded, and left to contribute to flooding in valleys downstream. The western forests were created out of a public domain. However, there was little public domain remaining in the East. The Weeks Law in 1911 authorized the purchase of private land for watershed protection. Most of the National Forests east of the Great Plains were established under this law and its amendments.¹⁵ The Weeks Law also established a regular program of cooperation between federal and state governments to protect state and private forests from fire. The fire protection program was greatly expanded under the Clarke-McNary Act of 1924, and the authority to purchase lands was greatly broadened, amending the Weeks Act. The Clarke-McNary Act also set up studies of forest taxation, in cooperation with the states in the production and distribution of forest planting stock for windbreaks, shelterbelts and farm woodlands, and cooperative work in farm forestry extension. In addition, the law gave great impetus to the establishment and development of state forestry agencies. The same year (1924), the Forest Service set aside the first wilderness area, located in the Gila National Forest in New Mexico. More than nine million acres in the West and the East would later be set aside administratively to remain in their natural state, visited by man only on horseback, foot, or by canoe.

Forest Service research was greatly expanded in 1928 with the passage of the McSweeney-McNary Act. This was the charter for extensive research programs that insured adequate supplies of timber and other forest products. It encompassed the full range of forestry activities from management of farm woodlots and restoration of abandoned areas unsuited for agriculture, to insect and disease control, better timber utilization, and development of genetically improved seedlings. It also authorized a nationwide survey of forest resources, which the Forest Service began in 1930 as a continuing and major activity.

The election of Franklin Delano Roosevelt and the emergence of the New Deal era brought to the Forest Service a greatly enlarged role in national affairs. The agency became an integral part of the New Deal programs, particularly in combining land restoration and self-sustained public works.¹⁶ In March 1933, Roosevelt sent a message to Congress asking for legislation to help end the horrible national conditions brought about by the Depression. Congress responded by creating the Emergency Conservation Work Project later called the Civilian Conservation Corps (CCC). On April 10 of the same year, the first quota of 25,000 men was called and, on April 17, the first camp, Camp Roosevelt in the George Washington National Forest in Virginia, was occupied. During the nine years the CCC program was operational, more than two million young men participated. A vast amount of forest protection, tree planting, watershed restoration, erosion control, and other improvements was accomplished. At the peak of the program, the Corps had 520,000 enrollees and 2,652 camps. No less than 1,303 of these camps were assigned to forestry projects. Its success in the rehabilitation of the economy and the land has led to movements toward a

revised and renewed CCC. The popular Youth Conservation Corps, established in 1970, and the newly-created Young Adult Conservation Corps reflect CCC characteristics.

During the Depression, the Forest Service also helped over 30,000 farmers in the Great Plains in a cooperative conservation project. The shelterbelt project was aimed at lessening drought conditions, protecting crops and livestock, reducing dust storms, and providing useful employment for drought-stricken people. In seven years, more than 217 million trees were planted from the Dakotas, south to Nebraska, Kansas, Oklahoma, and northern Texas.

World War II caused heavy impacts on the National Forests. Wood became an important war material needed for barracks, ships, war plants, boxes, crates for supplies, and hundreds of other uses. During the war, the armed services used a greater tonnage of wood than of steel. The Army alone used one billion board feet of timber a day for just truck bodies.¹⁷

Many of the Forest Service's peacetime activities, such as the nationwide forest survey, reforestation work, and land acquisition under the Weeks law, were curtailed. There were, however, many special war jobs to be done: surveys of forest products for war requirements and supplies; constant manning of lookout towers as part of the Army aircraft warning system; numerous studies and tests at the Forest Products Laboratory; a large-scale logging project in Alaska for production of urgently needed aircraft spruce, and even production of a substitute source of rubber (guayule).

The end of World War II marked the end of an era in the Forest Service. In 1945, the Forest Service was 40 years old; many of the men who had worked for the Forest Service under Pinchot were retired. Pinchot died the following year. The war and its aftermath brought new demands for forest resources, particularly for timber and outdoor recreation opportunities. These, in turn, produced increasing demands on other resources, wildlife, soil, and water. Conflicts over the use of forest resources increased. And so, the Forest Service was thrust into the mainstream of problems created by post-war booms in populations and leisure time.

These demands caused the National Forest System during the 1950's to change planning direction from custodial-type management into long-range intensive use management. "Operation Outdoors," begun in 1955, was a five-year program designed to improve and expand heavily used recreation areas. The next year the Forest Service and cooperating state, federal, and private agencies conducted a nationwide study of timber resources. The report showed that timber growth was increasing on a national basis and annual sawtimber growth was nearly nine percent more than had been estimated a decade earlier. The quality of timber growth, however, was declining; the more desirable trees were losing ground to those of poor quality. National Forests and other public land contained 27 percent of the country's commercial forest land. Most of the commercial timber land (60 percent) was owned by farmers and other individuals, most in small holdings of 100 acres or less. The remaining 13 percent was in industrial holdings. The report also showed that substantial increases in timber growth would be necessary to meet the demands of the future. The best ways to accomplish this, it proposed, were improved stocking, accelerated reforestation, expanded control of forest insects, diseases, and fire, and more complete utilization of the timber grown.

The culmination of these and other Forest Service suggestions came in 1959 when the Secretary of Agriculture, Ezra Taft Benson, transmitted to Congress a "Program

for the National Forests." This program was a comprehensive long-term plan for improvement and development of the public forests. Late in 1961, President Kennedy transmitted to Congress a 10-year "Development Program for the National Forest," which broadened the 1959 program.

One of the landmarks in forest legislation, the Multiple Use-Sustained Yield Act, was passed in 1960. It declared that National Forests were to be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. It gave Congressional confirmation to the long-established Forest Service policy to develop and administer renewable surface resources for multiple use and sustained yield of their several products and services. As defined in the Multiple Use-Sustained Yield Act, "multiple use" is management of all renewable surface resources of the forest so that they are used in the combination that will best meet the needs of the American people. It provides for judicious use of the several land resources and adjustment and coordination of management to conform with changing needs and conditions. "Sustained yield" is achievement and continuous maintenance of high-level output of forest resources without impairing the productivity of the land.¹⁸

Also in 1960, the national grasslands were established within the National Forest System. The Secretary of Agriculture gave 22 land utilization projects in 11 Great Plains and other western states the new status of "national grasslands." The projects, containing 3,822,000 acres of land suited to grassland agriculture, were purchased by the federal government in the 1930's as part of a land-use adjustment program. The new status provided a stable form of management, primarily of livestock grazing, especially needed for resource conservation in erosion-prone areas.

Despite the tremendous strides made in protection and use of forest and range resources in the mid-1960's, a growing segment of the public felt additional considerations should be emphasized. This group felt that economic benefits from the use of renewable resources, particularly on federal land, should be just one consideration in determining use, not the dominant consideration. The land and its products should be renewed after use. Man should leave fewer scars on the landscape after development, and in some cases development should be banned entirely. As a result, in 1964, Congress established out of wildernesses created administratively by the Forest Service during the previous 40 years, the world's first national wilderness system, comprising more than nine million acres.

More progress in conservation came from the "Conservation Congress" of 1965-66, which endorsed a total of 51 conservation measures dealing with problems of water pollution, air pollution, the need for designated recreation land, and the continuing urban sprawl. A new high water mark was reached with the passage of the National Environmental Policy Act of 1969 (NEPA). NEPA created the means for full consideration of alternatives to any public land action that might seriously disturb the environment, and for an examination of all adverse and beneficial aspects involved with such an action. More importantly, it required public involvement in the decision-making process. It established a process for deliberation and analysis that diminished the likelihood of hasty actions.

In the area of renewable natural resources, however, one element was still missing—the mechanism for long-range planning necessary for the health and continued high production of grazing lands, forest, wildlife, water, and other renewable resources. The Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA) remedied this situation. This Act recognized the supreme requirement in resource management—long-range planning. If one is to have bigger and better

benefits from renewable resources a hundred years from now, one has to start preparing today. Resources management is a step-by-step process. Each phase of the work must be carried out in logical order within an extended time frame. Resources cannot be managed on a "stop and go" basis.

The RPA was created to meet this need. It required two documents: an assessment of the renewable resource situation on all 1.6 billion acres of forest and rangeland in the United States, and a long-range program of Forest Service activities to provide a way of coping with future needs, as expressed in the Assessment. The Program and Assessment form a basis for Forest Service appropriations against a backdrop of long-range considerations. And they can lead to renewable resource policies and programs that are sound, both economically and environmentally.

The first Assessment and Program were developed during 1975. The public was very much involved, from initial suggestions on how to structure the documents, to final review of the Program that went to Congress. Public involvement is now beginning for the 1980 update. An entirely new Program and Assessment will not be developed; instead the 1975 effort will be enlarged to reflect public response, new legislation, and changes in the resources.

In 1976, another landmark in forestry legislation was passed: the National Forest Management Act. The Act laid out broad policy direction for the Forest Service. A major portion of the Act was devoted to strengthening the RPA. All but one of the first 12 sections are amendments to the Act, nearly tripling the length of the RPA. The focal points in the National Forest Management Act are land-management planning, timber management actions, and public participation in Forest Service decision-making. It reaches beyond the 187 million acres of the National Forest System to recognize the importance of scientific research and cooperation with state and local governments and private landowners. It is, in fact, a *national* forest management act.

Over the past 73 years, the Forest Service has been active in the movement to lead America away from the wasteful use of our renewable natural resources and into an era of wise management. As a result, America's forests today make substantial contributions to our economic life without endangering our renewable natural resource base. Wise management of our forest resources will give permanence and stability to many communities whose livelihood depends on those resources. Technical and financial assistance from the federal government continue to help states, local communities, and individuals cope with the problems of resource planning and allocation. America's forests provide outdoor recreation and vacation opportunities to millions of Americans each year. Hundreds of thousands of acres of forest land are open for livestock grazing. The forests protect watersheds vital to industry, agriculture, and community development throughout the country. Forestry research continues to seek new and improved methods of forest products and resource utilization and protection.

Now, through recent legislation and increased public awareness and involvement in land management, the stage has been set for creating a balance of forestry programs that meet present and future needs for renewable forest resources, with all the environmental safeguards built in. In order to achieve this goal, forest resources must continue to be managed, protected, and utilized for the greatest public good.

It can be seen that abundant renewable natural resources have been the key to America's success. The Forest Service will continue to help maintain conditions where man and nature can exist in productive harmony.

REFERENCES

1. Glen O. Robinson, *The Forest Service: A Study in Public Land Management* (Baltimore, Md.: The Johns Hopkins University Press for Resources for the Future, 1975), p. 5.
2. *Ibid.*, p. 5.
3. Harold K. Steen, *The U.S. Forest Service: A History* (Seattle, Wash.: University of Washington Press, 1976), p. 13.
4. Michael Frome, *The Forest Service* (New York: Praeger Publishers, 1971), p. 11.
5. Robinson, *op. cit.*, p. 6.
6. Gifford Pinchot, *Breaking New Ground* (Seattle, Wash.: University of Washington Press, 1972), pp. 16-137.
7. *Ibid.*, p. 244.
8. Robinson, *op. cit.*, p. 8.
9. Steen, *op. cit.*, p. 73.
10. Pinchot, *op. cit.*, p. 261.
11. *Ibid.*, p. 263.
12. *Ibid.*, p. 266.
13. Steen, *op. cit.*, p. 101.
14. Frome, *op. cit.*, p. 17.
15. *Ibid.*, p. 17.
16. *Ibid.*, p. 20.
17. Steen, *op. cit.*, p. 247.
18. U.S. Department of Agriculture, Forest Service, *Highlights in the History of Forest Conservation*, ABI Bull. 83 (Washington, D.C.: Government Printing Office, 1976), p. 37.



("The Silver Fir" in *Amer. Agric.*, March 1843)

THE SOCIETY OF AMERICAN FORESTERS

by

Dan Mezibov and Luke Popovich*

There is seemingly nothing unusual about a fledgling professional society gathering its first body of members, tapping their competence and knowledge, then structuring the newly formed organization to exert a profound influence upon the profession's advancement. In the America of 1900, however, creation of a professional society of foresters was anything but usual. For as late as the twentieth century, America had just begun to be introduced to forest management practices which had already existed in Europe for hundreds of years. We were a nation rich in some of the earth's most vast and productive forests—timberlands which blanketed nearly one-third of the United States—but we had perhaps only a half-dozen men who knew anything about managing them. Moreover, of the nation's three infant schools of forestry, two were faltering and destined for early failure.

American concern for the forest, however, had been growing steadily for several years. In 1871, Wisconsin's devastating Peshtigo fire took 1500 lives, destroyed many communities, and burned 1.3 million acres of forest, fanning public interest in protection from forest fires.¹ The nation's barren Great Plains would soon reap benefits from tree planting programs inspired by both the creation in Nebraska of Arbor Day in 1871 and passage of the Homestead Act one year later. Acting upon a recommendation by the American Association for the Advancement of Science, Congress, in 1876, directed the U.S. Department of Agriculture to study the nation's supply and annual consumption of timber, the influences of forests upon climate, and methods to ensure forest preservation and restoration. Finally, in 1897, Congressional passage of the Organic Act opened the first few national forests to timber harvesting.

Although those early measures were vital first steps toward forest care, they were not enough to shake the widely held notion of "inexhaustible forests" from a young nation still enamored with accelerated growth and westward expansion. By the end of the nineteenth century, the most predominant methods of forest care-taking still focused more upon preservation and fact-finding than upon perpetuation and wise use. The true practice of forestry—managing the forest scientifically to provide perpetual supplies of timber and other benefits—remained a concept known and practiced by very few. It would appear, then, that formation of the Society of American Foresters (SAF) in November 1900 did not so much organize and strengthen an existing American profession as it helped start one.

Since its inception the Society has grown from a scant 15 members to 21,000, working in 27 areas of specialization in over 180 regional sections, chapters, and groups. Although those first members were small in number, their ambition was great. In his tiny office of what was then the government's new Forestry Division, division Chief Gifford Pinchot and six other forestry pioneers drafted a constitution which set SAF's objectives as furthering

the cause of forestry in America by fostering a spirit of comradeship among foresters; by creating opportunities for a free interchange of views upon forestry and allied subjects; and by disseminating a knowledge of the purpose and achievements of forestry.²

*Dan Mezibov is Media Assistant, and Luke Popovich is Director of Information, Society of American Foresters.

Though its emphasis would later change, this early purpose of the Society was well served during the first series of weekly meetings as members and invited forestry guests heard leading government, science, and conservation figures give their views on issues of the day. Among the speakers was President Theodore Roosevelt who, in 1903, broke with Presidential tradition by speaking to SAF members in Pinchot's Washington, D.C., home, a private residence. Pinchot described one of those early meetings:

... the discussion of the evening was regularly followed by a very moderate feast of baked apples, gingerbread, and milk. To some of our men the proceedings were so new and strange that one of them, a Westerner noted for his cool courage, actually fainted when the time came for him to speak. But he made his talk just the same.³

Eventually, the weekly meetings gained increased professional and scientific recognition for the Society which, by 1913, had been named an affiliate of the American Association for the Advancement of Science. Earlier, in 1909, SAF was instrumental in establishing the first national conference on forestry education, leading in 1912 to the Report of the Committee on Standards of Forestry Instruction, which formulated a standard forestry curriculum. Further, publication in the Society's 1911 *Proceedings* of future SAF President William B. Greeley's address, "Better Methods of Fire Control," led to a U.S. Forest Service request for 1500 reprints for distribution to the agency's employees in the field. This widespread use of Greeley's remarks was the first in a series of important statements by the Society which influenced, legislatively and otherwise, the course of forestry in America.⁴

If the early objectives of the Society had been clear and unchallenged, the future role of SAF grew less so. Brought increasingly into question, the Society's future direction resulted in a tumultuous controversy which reached its height during the New Deal era. The era was an historical watershed for SAF, with lessons relevant to today. The Society during the 1930's was severely tested, and found resilient and stable. Then, as now, there was one particularly vexing question: "What is the proper role of a professional society?" Former SAF President H. H. Chapman, a senior professor of forestry at Yale University, addressed himself to this question before the Society's 1935 Annual Meeting:

The Society of American Foresters cannot survive and function if its role is distorted into that of a political organization for the advancement of economic doctrines . . . [or] if it degenerates into a cultural body for the polite discussion of technical problems in the pure and rarified fields of science.⁵

From his New Deal perspective, Chapman aptly defined a dilemma that haunts the Society even now. To be or not to be was never the question. What to be, however, often was. Should the Society step into the hot lights of public debate or stay in the cool shade of the woods, where some always insisted it belonged? The dilemma Chapman outlined remains the same today; only the issues have changed.

If no easy consensus prevails within the Society now, neither did it in Chapman's day. For example, unresolved in the 1930's was the nagging controversy which had persisted since the days of Gifford Pinchot's early leadership—the regulation issue. "Public regulation to prevent devastation is the most urgent need in forestry," wrote Pinchot and six other distinguished Society members in a 1930 article, "Letter to Foresters," in the Society's monthly *Journal of Forestry*.

These men had no doubts about the obligation which public (federal) regulation of private forest practices would impose on the Society. "The duty of the foresters of America with faith in the forests and in the nation, is clear . . . It is to destroy forest destruction in the United States."⁶ The declaration concluded with a call for more federal regulation and more federal ownership of forest lands.

That one of the Society's founding fathers and his disciples found themselves pitted against many of the rank and file as well as against other forestry leaders testifies to the early use of the Society as a sounding board for a healthy thrashing out of deep-rooted professional disagreements. Replies to the "Letter" by other prominent members, for example, suggested that not all perceived their duty with the clarity of Pinchot and his coauthors. C. Stowell Smith, an official of the National Lumber Manufacturers Association, suggested the letter's appeal "savors of the revival service," and reminded its authors that "few professionals agree on the requirements of a fundamental forest policy."⁷ Industrial consultant F. W. Reed called attention to the yawning chasm that split the Society, pitting those whom he called the "idealists" against the "pragmatists."⁸ Not to be outdone, R. S. Kellogg, industry association executive, admonished the *Journal* for having the gall to print the Pinchot faction's letter. "The Society," he fumed, "should not be an instrument for propaganda nor used for the advancement of personal theories of public policy."⁹

Today, issues are not debated with such intensity that charges of foul play fill the air as was the case in 1929. That year Pinchot and his followers usurped the findings of Barrington Moore's Committee on Forest Policy, which was charged with investigating the regulation issue. Dissatisfied with the recommendations, Pinchot beat it to press with his own minority report, a strong indictment of his colleagues' proposals. When later that year, *American Forests* magazine published a rebuttal by industry spokesmen defending private forestry, Pinchot denounced the editor for printing "propaganda," precisely the charge to be levelled at Pinchot himself a year later.

By 1933, the Society's dissension over the regulation issue had cooled, only to resurface in a new guise due to a different tack taken by the members of the Pinchot faction. Regulation, they felt, was no longer enough. Instead, they urged federal ownership of the nation's forest lands. Ambitious government, it seemed, called for ambitious measures. As for their view of private forestry, which was the domain of many Society members, Pinchot wrote President Franklin D. Roosevelt that ". . . neither the crutch of inflation nor the whip of regulation can restore it." Of course, this diagnosis was enough to chill the hearts of SAF's members engaged in private forestry who, by this time, comprised half of the Society's membership. Many must have nervously eyed the exits at the 1935 SAF annual meeting when Chief of the U.S. Forest Service F. A. Silcox offered a few "principles" for adoption by the Society, among which was public control over private forest lands.¹⁰

Silcox's provocation was only one gust in a stormy session that demonstrated the intensity of the debate over federal regulation of private forestry, an issue which even today is receiving the intense scrutiny of foresters, state and federal officials and the Congress. A more dramatic demonstration was the fight over the *Journal*'s editorial policy. The dispute came to a head at the same meeting, although the roots could be traced back to the previous year. The move afoot was to replace the editor (unpaid) for what was deemed inadequate coverage of the federal regulation issue and for what some saw as a steadfast devotion to purely technical articles. The issue was finally resolved

when the editor resigned of his own volition and the Council was petitioned to select an editor "with strong social convictions" and extend him a degree of editorial freedom from the dictates of the Council, the Society's governing body.

That same year, 1935, featured increasing agitation from industrial foresters who were also displeased with the *Journal*'s editorial philosophy but for a different reason. It seems it wasn't conservative enough. In their view, social policy had nothing to do with their profession, least of all the liberal policies of federal regulation and ownership. Neither, apparently, in their view, did opinions of any kind have anything to do with their profession, since they urged a total ban on all *Journal* editorials in favor of a magazine completely devoted to scientific discussion. The delegates soundly defeated this motion.

Having set the Society's most illustrious members against one another, the 1935 meeting plainly demonstrated the Society's painful struggle to chart its professional course through the open seas of New Deal politics. Aside from the issues of federal regulation and ownership, of course, one could find Society members closing ranks during the New Deal years over issues that were equally important. Both public and private foresters, for example, joined forces in opposition to the Ickes Bill, a measure named after Interior Secretary Harold L. Ickes, which contained his proposal to create a new Department of Conservation and Works by transferring the Forest Service from the Agriculture to the Interior Department.

Even those dedicated to broadening the scope of forestry to enhance social and economic well-being flatly opposed Ickes' proposal. Veteran foresters like Pinchot, Silcox, and Henry Solon Graves would have no part of the Interior Department's administering national forest lands. With the forceful figures of Pinchot and Chapman temporarily allied against Ickes, the Society almost unanimously followed suit to help kill the plan. Its demise was only temporary, however, as similar versions have continued to materialize to this day. In 1977, for example, SAF provided policymakers with strict guidelines covering a proposed Administration reorganization of federal environmental and natural resource agencies.

The striking gains made by Pinchot and others in raising the forestry profession from its meager origins, dramatic as they were, hardly insured the Society's current stature. On the eve of the heady New Deal years, the Society only grudgingly ventured beyond the confines of the U.S. Forest Service to actively embrace the growing ranks of industrial foresters. Autonomy from the then strongly paternal Forest Service and a distinct identity of its own were Society accomplishments that had to await the outcome of internal reforms which took place in the 1930's.

Characteristically, the Society was able to reform by amending its procedures in ways that are now taken for granted, but were then radical departures into unknown areas. Formalizing the gradual break with the Forest Service, for example, was then a matter of somber deliberation. The Council emphasized the *Journal*'s editorial independence from the Forest Service and specifically directed the newly appointed editor, himself a federal forester, to serve "the best interests of the Society" in exercising editorial discretion.

In the New Deal era, the Society could also take advantage of changing conditions to further its aims. The eventual decision in 1935 to base membership in the profession primarily on educational achievement justified the Society's claim to scientific knowledge and practice. Chapman clearly saw the need for the Society to

assume a more dynamic role and determine for itself what the proper standards of forestry education should be. In no small way, this sanction of forestry curricula through the accreditation of forestry schools affirmed the Society's role in American forestry. Through these early initiatives, the Society was enabled to determine what forestry properly was—and ultimately what foresters were to be. Today, the Society officially accredits or otherwise recognizes 52 schools of forestry at colleges and universities throughout the United States, and has issued guidelines for forest technician training.

As the New Deal years drew to a close, the Society had weathered perhaps its most difficult period. It emerged stronger and more firmly established in the professional world. Thereafter, idealists and pragmatists would stray off in different directions only to return eventually to the same course, just as the Society's leaders would differ at the rudder but manage to agree on a common direction. By the end of the New Deal era, it was clear that the highly charged political climate of the 1930's had actually nourished the Society, rather than weakened it.

As the demands of the forestry movement broadened through the years, so did the Society's objectives. Stated purposes which in 1900 had been directed largely toward self education were expanded in contemporary times to better reflect the Society's outward thrust "to advance the science, technology, education and practice of professional forestry in America and to use the knowledge and skills of the profession to benefit society."¹¹

Nowhere is this more evident than in SAF's current emphasis on the study of forest policy issues, the pursuit of consensus, and the utilization of the profession's collective knowledge in providing forest policymakers with the informed, independent information needed to establish sound legislation. The Society now has, or has had, national task forces on such issues as forest land use planning, forest wilderness, use of off-road vehicles on forest lands, energy and forest resources, water quality, and the use of herbicides and insecticides. Among the national positions which have been adopted and disseminated are those on both multiple-use and even-aged forest management, mineral extraction from forest lands, prescribed burning, allocation of federal lands in Alaska, guidelines for a competent state Forest Practices Act, and proposed amendments to the National Forest Management Act of 1976.

In a 1967 referendum, the membership approved revisions of SAF's original statement on forest policy adopted in 1928. The statement constitutes the forest policy principles on which the membership agrees and by which the Society stands, and is reviewed and amended periodically. Since 1968, the Society's Council has provided, and revised as necessary, procedures to ensure that national positions represent an informed and timely professional consensus.

The Society's work in forest science reaches far into its history, to 1928 and the landmark McSweeney-McNary Forest Research Act, which resulted largely from SAF's repeated insistence that the nation's forest research be authorized by congressional statute. Today, the Society continues to develop an increasing array of science and interdisciplinary programs to facilitate the exchange and use of new knowledge. A principal mechanism for this is the Society's 27 working groups, which have sponsored regional and national symposia, short courses, workshops and technical conferences in subject areas ranging from forest pathology and photogrammetry to forest economics and law. In 1977, for example, representatives from the Society and the American Bar Association met in Denver in a jointly sponsored forum to examine, among other forest policy issues, the 1976 National Forest Management Act and its

wide-reaching implications. Soon afterwards, SAF and the Resources for the Future Foundation co-sponsored a comprehensive workshop which critically analyzed the current use and potential of the nation's vast nonindustrial private forest lands.

Forestry education and research have been supplemented over the years by the Society's professional publications. Beginning with *Forestry Quarterly* in 1902 and *Proceedings of the Society of American Foresters* in 1905, SAF's publications program became firmly established when the two early periodicals were merged in 1917 into the monthly *Journal of Forestry*. Since its establishment, the *Journal* has provided what former SAF President Shirley W. Allen called an "indispensible medium for exchanging professional thought, for publicizing new discoveries, techniques and procedures, and for reviewing current forestry literature."¹² Later, SAF periodicals would be expanded to include *Forest Science*, the quarterly journal of forest research and technical progress; *Forest Science Monographs*; and the *Southern Journal of Applied Forestry*, inaugurated in 1977.

Many of the most important publications contributing to professional progress have resulted from the work of SAF committees. Collaboration between the Society's Committee on Forest Types and the Canadian Institute of Forestry led in 1954 to publication of SAF's *Forest Cover Types of North America* (exclusive of Mexico). The volume is now a companion to *Natural Areas of the Society of American Foresters*, listing 281 areas of virgin or old-growth forests designated by the Society for silvicultural, forest management, and ecological research. An earlier work, *Forest Terminology*, is a glossary of applied forestry's most widely used terms, and is currently being translated into French and Spanish. The Society's most ambitious reference undertaking, however, was its publication in 1955 of the *Forestry Handbook*. The work of some 200 specialists, the 1200-page handbook includes sections on forestry's most commonly used methods, techniques, formulas, and tables. Currently, the Society's Committee on Metrication is preparing materials to facilitate the profession's conversion to the metric standard.

SAF's active participation as an affiliate of several professional, scientific, and educational organizations has continually given forestry significant opportunities to serve the public interest. Perhaps the Society's boldest professional affiliation came in 1972 as a result of its leadership in establishing the Renewable Natural Resources Foundation, a collection of 11 scientific and educational organizations working to collect, coordinate, and disseminate the interdisciplinary knowledge required for optimum management of the earth's renewable natural resources. Surrounded by diverse wildlife and woodlands, the Renewable Natural Resources Center is being developed at "Wild Acres," the 35-acre site of the Society's headquarters just outside Washington, D.C. One of the foundation's first projects culminated in 1977 in a comprehensive symposium, jointly sponsored by several federal agencies and educational institutions, to review forest and rangeland research policies in the United States.

It would hardly be an exaggeration to say that over the past years, the nation's forests and indeed the earth, have been rediscovered. Mankind's attentions and energies have returned from a preoccupation with the mysteries of the planets to a renewed fascination with the mysteries of the earth, its environment and resources. The relative role which the Society of American Foresters has played in this rediscovery is difficult to determine, but doubtless its role has been crucial. For without the Society, and without the strict code of ethics which guides the business and professional conduct of its members, it is unlikely that a profession of forestry could ever have developed in America. Today the world's largest organization of forestry

professionals, the Society represents public and private practitioners, educators, researchers, administrators, forestry students, and forest technicians whose accumulated knowledge and skills have proven themselves indispensable to the welfare of a nation and its vital natural resources.

REFERENCES

1. Robert K. Winters, "The First Half Century," in *Fifty Years of Forestry in the U.S.A.*, ed. by Robert K. Winters (Washington, D.C.: Society of American Foresters, 1950), pp. 2-3.
2. Shirley W. Allen, "The Society of American Foresters," in *Fifty Years of Forestry in the U.S.A.*, ed. by Robert K. Winters (Washington, D.C.: Society of American Foresters, 1950), p. 273. Hereafter cited as Allen, "Society of American Foresters."
3. Gifford Pinchot, *Breaking New Ground* (Seattle, Wash.: University of Washington Press, 1972), p. 1.
4. Allen, "Society of American Foresters," p. 273.
5. H. H. Chapman, "The Responsibilities of the Profession of Forestry in the Present Situation," *Journal of Forestry* 33 (March 1935): 204.
6. Gifford Pinchot, "Letter to Foresters," *Journal of Forestry* 28 (April 1930): 456-457.
7. Stowell C. Smith, "De-Bunking Forestry," *Journal of Forestry* 28 (April 1930): 464.
8. F. W. Reed, "Is Forestry a Religion?" *Journal of Forestry* 28 (April 1930): 462.
9. R. S. Kellogg, "As I See It," *Journal of Forestry* 28 (April 1930): 461.
10. F. A. Silcox, "Foresters Must Choose," *Journal of Forestry* 33 (March 1935): 198.
11. Society of American Foresters, *Constitution*, 1975, p. 2.
12. Allen, "Society of American Foresters," p. 280.



("Oak-leaved Mountain Ash" in *Amer. Agric.*, December 1866)

THE AMERICAN FORESTRY ASSOCIATION

by

Henry Clepper*

The American Forestry Association was organized September 10, 1875, in Chicago. The founding president was John Aston Warder, a physician who had given up his medical career in order to devote his interests to horticulture, especially experimentation with the planting and culture of both forest and fruit trees at his estate at North Bend, Ohio, near Cincinnati.

Warder's associates in the founding of the Association were about twenty in number and were mostly practicing horticulturists, nurserymen, and a few teachers in agricultural colleges. All had an interest in tree planting and the emerging subject of forestry. There were no foresters among the organizers, however, for the simple reason that at that time there were no technically trained foresters in North America. Forestry's debt to horticulture is clear, for the main purpose of this small group was to promote afforestation and the cultivation of forest trees.

The logical questions that arise are why did they wish to advance tree planting, and why was an organization deemed necessary? In 1875, there was not a single governmental agency, federal or state, that was officially active in forestry or forest conservation. In the absence of governmental leadership, or even involvement, these citizens united to help advance a worthy cause which governments were unable or unwilling to promote.

Shortly after the Civil War, some concerned citizens began calling attention to the widespread forest destruction by logging and fire. In the East and the Lake States, forest exploitation for lumber and other forest products was causing rapid denudation of millions of acres. Moreover, land clearing for agriculture was also taking valuable timber stands out of production. To make new ground, settlers often felled and burned many prime trees, such as black walnut, simply to get rid of them. Woods fires were common throughout the nation. Often they were set by Indians, loggers, settlers, or by natural causes, such as lightning. Protection forces to extinguish the fires were to all practical purposes nonexistent. Unless fire threatened human life, livestock, or buildings it was usually left to burn itself out or to be extinguished by rain.

To be sure, laws for the protection of woodlands were passed by the colonies and later the states, but generally they were ineffective because seldom were they enforced. In October of 1871, for example, extensive and destructive conflagrations burned in the dry woods of Michigan and Wisconsin. In central Michigan alone, fires extended over two and one half million acres and took at least ten lives. In eastern Wisconsin, forest fires had been burning for weeks when on October 8 disaster struck Peshtigo, a sawmill and lumber town of 6,000 population on Lake Michigan. By midnight, Peshtigo had been burned to the ground; more than 1,000 people had died in the town and surrounding settlements, and one and one-fourth million acres of timber were consumed.

Destruction of the nation's forest resources prompted some thinking citizens to fear a timber famine. As early as 1865, the Reverend Frederick Starr contributed

a paper entitled "American Forests, Their Destruction and Preservation" to the report of the Commissioner of Agriculture. Starr predicted a "... permanent national famine of wood within thirty years."¹

It was logical that the nurserymen and horticulturists who became the founding fathers of the American Forestry Association should wish to reforest land denuded of trees. But, in addition, they sought to afforest the treeless plains and prairies where settlers found wood to be a much needed and valuable commodity. And while this citizens' association advanced public education in forest conservation and tree planting, a group of scientists also worked to influence both the government and the scientific community. A leader in this movement, Dr. Franklin B. Hough of Lowville, N.Y., like Warder, was also a medical doctor. In an address entitled "On the Duty of Governments in the Preservation of Forests," which was presented before the Association for the Advancement of Science (AAAS) in 1873 in Portland, Maine, Hough made a most influential pronouncement in behalf of forest conservation. He advocated forest protection by the federal and state governments and recommended that the United States retain ownership of its extensive acreage of forests in the West.

AAAS appointed a committee with Hough as chairman to petition the Congress and state legislatures to protect their forests and encourage their cultivation. Finally, in August of 1876, Congress appropriated \$2,000 to employ a special agent to report on, among other things, the best means of forest preservation and renewal. On August 30, 1876, Hough was given the assignment thus becoming the first forestry agent in the federal government, and his appointment in the Department of Agriculture was the first tentative step in what subsequently became the Forest Service.

In Hough's first *Report Upon Forestry*, dated 1877, he twice cites Warder's seminal experimental work in tree planting. Hough, however, does not identify Warder with the nascent American Forestry Association which was only starting its modest efforts to marshal public opinion and educate citizens about the importance of forest conservation. Obviously, for the federal government and the Association, it was a period of small beginnings.

The First American Forestry Congress

In April of 1882, an American Forestry Congress was held in Cincinnati. More than 100 addresses and papers were presented (six separate papers by Warder). Hough, of course, was present. Tree planting ceremonies were held in Eden Park in the presence of audiences said to number 25,000.

Later in the year, the American Forestry Association was merged with the American Forestry Congress. Bernhard E. Fernow, an immigrant from Prussia who had completed the forestry curriculum at Hanover-Muenden Academy, had a prominent part in the consolidation. When Warder died in 1883, Fernow became secretary of the Congress/Association that same year, continuing until 1895. In 1886, he was named chief of the Division of Forestry in the U.S. Department of Agriculture, which had evolved from Hough's small office of forestry agent, and served until 1898. The merger of the Forestry Congress and the Forestry Association consolidated interests already active in the conservation movement and broadened the base of popular support for the cause. The *Proceedings* of the Congress became the annual reports of the Association in 1890, the name Congress was dropped, and the American Forestry Association was incorporated in 1897.

The Drive for Forest Reserves

In the western United States, the government owned vast

*Henry Clepper, now retired, was long associated with the American Forestry Association and is a nationally recognized historian in forest conservation history.

areas of public land under the jurisdiction of the Department of the Interior. The mandate, however, given the Department by the Congress of the United States was not to conserve the public lands but to dispose of them. Thus Congress made no provision for a conservation policy or for prudent custody of its timber. Even capable and honest Carl Schurz, Secretary of Interior under Rutherford B. Hayes and the first conservationist to hold cabinet rank, was practically helpless to protect the forests from fire and theft. He once described how hundreds of sawmills manufactured lumber from timber stolen from these federal lands.

A draft of a bill for the withdrawal of public domain timberlands for disposal to private ownerships and for their retention as permanent federal forest reserves was presented to the Forestry Congress/Association in 1877. It was not until 1891, however, that the U.S. Congress empowered the President to withdraw forest reserves from the public lands. This was a notable victory for the American Forestry Association, for its members represented the concerned public interest that worked for this essential first step leading to a national policy on forestry. Gifford Pinchot later called the action "the most important legislation in the History of Forestry in America."²

President Harrison promptly proclaimed nearly 13 million acres of forest reserves, and President Cleveland soon added five million acres more. These reserves were the beginning of our present 187-million acre national forest system.

Forest Administration—The Next Step

To set aside forest reserves was one thing; to administer them efficiently, in particular their protection from fire and theft, was another. In 1896, the American Forestry Association persuaded the Secretary of the Interior to request the National Academy of Sciences to investigate and report on a rational policy for the forested lands of the United States. When the committee appointed by the Academy made its report to the Secretary of the Interior in May of 1897, it said forthrightly that Interior's methods and personnel for administering the reserves were inadequate. In June of 1897, Congress passed the so-called Forest Reserve Act. Fernow, then chief of the Division of Forestry in the Department of Agriculture, said that the legislation was brought about only by the education program conducted by the American Forestry Association.

Sponsored by the Association, an American Forest Congress was held in Washington, D.C., January 2-6, 1905. Attendance at the sessions averaged 1,000. Its purpose was to foster public understanding of the economic importance of forests and to advance the conservation of all forests and related resources. James Wilson, Secretary of Agriculture and president of the Association for the previous five years, convened the Congress. Before an audience of 2,000, President Theodore Roosevelt gave the keynote address which was entitled "The Forest in the Life of the Nation." Among the numerous resolutions adopted was one long advocated by the Association. It called for the unification of all forest work by the federal government, including the administration of the forest reserves in the Department of Agriculture. Congress passed the act one month later.³

Commenting on the transfer of the reserves to the Department of Agriculture, the magazine *Forestry and Irrigation* noted, "The American Forestry Association was a potent factor in the creation of the reserves, and the first laws for their administration, and it has likewise been a powerful ally in the move for the consolidation of all forest work."⁴ The Bureau of Forestry now became the Forest Service and, two years later, the forest reserves were named national forests.

The Drive for Eastern National Forests

In 1906, all the forest reserves were in the West; there were none in the East. Indeed, the only publicly owned forest reservations in the eastern states were the Adirondack forest preserve in New York state, a small though growing state forest system in Pennsylvania, and a few state parks of limited acreage in other states.

A major goal of the American Forestry Association—an objective toward which the Association had striven during the first decade of the century—was the establishment by Congress of federal forest reservations in the Southern Appalachians and the White Mountains of New Hampshire. In North Carolina, the Appalachian Forest Reserve Association undertook a vigorous campaign of public education, but its influence was never strong enough to obtain favorable Congressional response. This regional association merged its efforts with the broader-based American Forestry Association. In New England, two regional organizations—still active today—were potent educational forces. They were the Society for the Protection of New Hampshire Forests and the Massachusetts Forestry Association.

Together with support from forestry associations in Connecticut and Vermont, and educational work by the American Forestry Association, newspaper editors and thinking citizens throughout New England were persuaded that the forests of the White Mountains must be saved from destructive logging and fire.

In March of 1907, as mentioned, Congress changed the name forest reserve to national forest. During the following summer, an educational circular, entitled "Save the Forests of the Appalachian and White Mountains," was published by the American Forestry Association and widely distributed. After numerous setbacks and opposition by some Congressmen, the conservation forces finally emerged triumphant. Congress passed the so-called Weeks Law and the President approved it on March 1, 1911. Its author was Representative John W. Weeks of Massachusetts.

This legislation set a new direction—and a most important one—in forestry policy. Although its original though limited objective was to authorize national forest acquisition in the eastern states, it did more than that. It authorized compacts between the states to conserve forests and water supplies; it enabled the Secretary of Agriculture to cooperate with the states in the protection of forests from fire; and it provided for federal acquisition of lands at the headwaters of navigable streams. Thus national forests could be purchased in any state if the state itself concurred.

As a result of the Weeks Law, states without organized forest protection created fire prevention and fire fighting forces. In 1911, only 11 states were engaged in forest protection work sufficient to qualify for financial assistance from the federal government. The area under protection was 60 million acres. In 1924, when the Weeks Law was amended by the Clarke-McNary Act, 29 states were cooperating with the federal government. The protected area had risen to 178 million acres. Indeed, the strengthening of state action in forestry and forest protection was a major benefit of the Weeks Law, a benefit that continues unabated today. The American Forestry Association provided the educational leadership that made this landmark progress possible.

The Voice of Conservation

It was not until 1898 that the American Forestry Association established a journal of its own. Beginning in January, *The Forester* became the Association's

official magazine and its organ of communication with its members and the general public. It was started in 1895 by a young man in New Jersey who received his doctorate in forest economics from the University of Munich. His name was John Gifford and he later enjoyed a long and productive career in teaching and tropical forestry. He was the author of one of the first books on forest management—*Practical Forestry*—which was published in 1901.

Under various names—including *American Forestry*, *Conservation*, and *American Forests and Forest Life*—the magazine has had modest but steady growth. Today it is the highly regarded *American Forests* with a circulation of nearly 80,000 monthly. Notable in its history have been three dynamic editors: P. S. Ridsdale (1919-1922), Ovid Butler (1923-1948), and James B. Craig (1953-1977). Although its main concentration is on trees and forests, *American Forests* is recognized as the magazine also of soil, water, wildlife, and outdoor recreation.

The Civilian Conservation Corps

During the depression years of the 1930's, the American Forestry Association had a prominent role in helping to establish the Civilian Conservation Corps. More than 10 million men were out of work in 1932. Ovid Butler, then executive secretary of the Association, urged the federal government and the states to create work programs in the nation's forests and parks. He identified projects capable of providing jobs for hundreds of thousands of idle men in the construction of firebreaks, roads, trails, and telephone lines; reforestation and the establishment of forest tree nurseries; control of tree-destroying insects and diseases; soil erosion control, and roadside tree planting and beautification.

Less than a month after Franklin D. Roosevelt became President in March of 1933, he signed an act of Congress that provided funds for unemployment relief and conservation of natural resources. By executive order, he created the Office of Emergency Conservation Work, popularly known as the Civilian Conservation Corps (CCC).

CCC camps were set up in national and state forests and parks, and on other public lands. During the nine years of its existence (1933-1942), the CCC gave employment to three million men. The enrollees planted millions of trees, extinguished thousands of woods fires, developed hundreds of recreational sites and park facilities, improved extensive areas of grazing lands and wildlife habitats, constructed hundreds of miles of truck trails and telephone lines for forest protection, and practiced soil conservation on thousands of acres.

The CCC was a notable milestone in the annals of conservation. No organization was more zealous in promoting the concept of unemployment relief by putting men to work on forestry and natural resource projects than the American Forestry Association. Understandably, in the public mind the Association was often believed to have conceived the plan in the first place. Although the Association never claimed to have originated the concept of the CCC, by publicizing the work of the Corps and supporting it monthly in the magazine, the Association had a stimulating effect in gaining the needed backing for resource conservation.

Forest Resource Appraisal

In January of 1944, the Association started a three-year fact-finding survey of the effects of World War II on the nation's forest resources. Costs of the survey were underwritten by contributions from private sources; cooperative services were contributed by the states. The appraisal's purpose was to obtain factual

information on which national and state policies and legislation might be based.

An advisory committee was set up. It had such well-known foresters as S. T. Dana, dean of the University of Michigan School of Forestry and Conservation; W. B. Greeley, former chief of the Forest Service, and W. G. Howard of the New York State Department of Conservation. A staff of regional consultants, experienced in forest appraisal work, was recruited and served under Director John B. Woods, a forester of wide experience.

As findings for each state were completed, they were published in *American Forests* magazine. A summation for the whole country was then published with supporting statistics. In it, the Association laid out a comprehensive body of data as the basis for consideration and action at an American Forest Congress to be held in Washington, D.C. Preliminary to the Forest Congress, a program committee outlined the principal forest and conservation issues of postwar reconstruction. The Forest Congress, the third in the Association's history, was held in October of 1946. Its purpose was to propose a program for the nation's 625 million acres of woodlands.

Led by Lyle Watts, chief of the Forest Service, a group of delegates advocated complete federal control over all privately owned forest lands. A majority recommended that such control as deemed necessary be developed by and through the states. A small minority held that no control by governmental agencies, federal or state, was needed. This issue of federal regulation of all private forest management prevented the Forest Congress from submitting a program calculated to attract the support of the American public. Nevertheless, the Association's recommendations in its "A Program for American Forestry" (*American Forests*, March 1947) became a charter for the Association itself as well as for other conservation organizations that sought similar goals.

During the following years, the forest products industry, which had long been criticized for poor harvesting practices, committed itself to practicing sustained-yield forestry. Some states passed regulatory laws to guide cutting practices and, in general, there resulted a marked improvement in state forestry professionalism and administration.

The Register of Big Trees

In 1940, the Association started a special project which over the ensuing years has become successful beyond all expectation. It was simply to encourage citizens to locate and measure the nation's largest specimens of native trees. Within two years, 500 big trees had been reported. Five years later, the list of nominations totalled 1800 representing 251 species. As of February 1978, the Association's register of big trees lists some 662 national champions.

Today, a question frequently asked is, what is the largest tree in America? Considering mass alone, the Association has determined that the most massive specimen of the vegetable kingdom is a so-called "big tree" named the General Sherman tree in Sequoia-Kings Canyon National Park in California. Estimated to be more than 3500 years old, it has a trunk circumference of 84 feet. The General Sherman tree is used as a symbol of the Association's long interest in trees and forests on its bronze medallion mounted on its Distinguished Service Award. The tallest tree in America, if not in the world, also stands in California. It is a coast redwood, 367.8 feet in height. Its location is close to Redwood Creek in Humboldt County. The latest status on any particular tree species, together with directions for submitting nominations, may be obtained from The American Forestry Association, 1319 18th Street, N.W., Washington, D.C. 20036.

The Association's Centenary

In October of 1975, the American Forestry Association celebrated its 100th anniversary. To mark the historic occasion a three-day meeting was held in Washington, D.C., at which was presented and reviewed an updated "Conservation Program for American Forestry." This program had been drafted by a working committee of nearly 100 of the nation's leading foresters and natural resources specialists. Presented on a special day designated as the Sixth American Forest Congress, it set forth objectives for the Association during the coming years, and also charted courses for other organizations and some government agencies.

Prepared especially for the anniversary was a book entitled *Crusade for Conservation: The Centennial History of The American Forestry Association*. Written by this author, it was published by the Association in 1975.

Summary

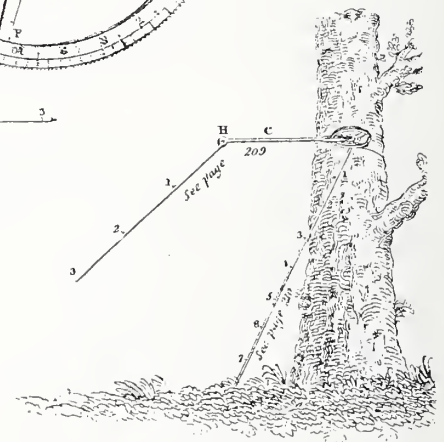
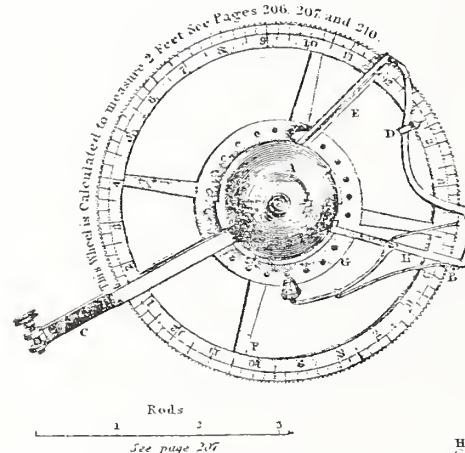
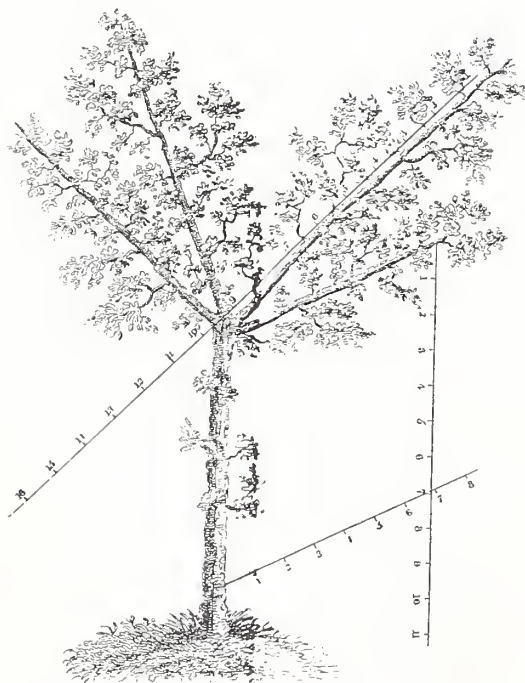
What more might be written by way of summary? For one thing, it may be said without exaggeration that for a hundred years the Association played a leadership role in the development of policies and practices for the scientific management of the nation's forest resources. Tree planting was the major interest of the founders. Soon, however, control of fires and theft on the public lands, timber production, and watershed protection became urgent concerns. Then wildlife management, recreation, and environmental improvement were given the

members' attention.

Chief among the Association's activities for attaining its objectives has been public education with the main reliance on its magazine and other publications. Although not a lobbying organization, the Association has kept the Congress and public officials in resource agencies informed of its views on issues and subjects within its fields of competence. Education of legislators, of officials, federal and state, of forest owners, and of teachers has been the Association's principal way of spreading the conservation message. In short, the Association's history offers some guides as to the ways in a democracy the voice of the citizenry can safeguard and enhance the nation's heritage of forest resources together with the soil and water that support them.

REFERENCES

1. U.S. Department of Agriculture. Commissioner, *Report . . . 1865* (Washington, D.C.: Government Printing Office, 1966), p. 219.
2. Giffort Pinchot, *Breaking New Ground* (New York: Harcourt, Brace & Co., 1947), p. 85.
3. American Forestry Association, *Proceedings of the American Forest Congress Held at Washington, D.C., January 2-6, 1905 . . .* (Washington, D.C.: H. M. Suter Pub. Co., 1905).



(Robert Monteath's *Forester's Guide and Profitable Planter...*, 1820)

COOPERATIVE EFFORT IN THE DEVELOPMENT OF FORESTRY IN THE WEST

by

Steele Barnett*

All too often we forget that the progress and achievement of today are the result of far sighted action by yesterday's leaders. Had such leaders not recognized sixty some years ago that forest protection was the first essential step toward the establishment of a permanent forest economy in the United States we could not now look forward with confidence to a stable and prosperous forest products industry. Had they not translated foresight into organized (cooperative) action we would now be much farther away from this objective than we are today.¹

In the early 1900's forestry was in its infancy. The U.S. Forest Service, as a separate service, was only four years old and consisted of a few people and even less equipment. State forestry agencies frequently consisted of only one or two people and virtually no budgets. Members of the legislatures and the Congress, reflecting the general attitude of their constituents, felt that timber stood in the way of increasing agricultural opportunities, that nature would restore the trees on those areas not suitable for agriculture or grazing, and that appropriations for forest protection and reforestation were contrary to current needs and priorities.

The year 1902 was an exceedingly bad fire year in the West, and many of the large landowners instituted fire patrols on their lands following large timber losses. In a few instances the patrols were supported by several of the landowners where their ownership was intermingled. Generally these patrols consisted of one or two men with the authority to hire additional workmen as needed to help suppress an active fire. For the most part one company would pay the bills for the season and then be reimbursed by the other affected owners for patrol and suppression costs on a per acre basis. This practice, however, was neither widespread nor well organized, although it did function well enough to prove that cooperative fire patrols could reduce timber losses.

By 1904, timber landowners not only began forming organizations but also began developing cooperative forest patrol and fire suppression programs. In 1906, four such cooperative private protection associations were organized in Idaho, while, for the first time, the patrols on intermingled private, state, and federal lands pooled their protection efforts, allotted districts between them to avoid duplication, and shared patrol and fire fighting costs on an acreage basis. This private-state-federal cooperation soon spread throughout the West.

In January of 1909 representatives of the large private timber landowners of Washington, Oregon, Montana, and Idaho met in Spokane, Washington, for a conference on fire protection. Col. W. B. Greeley and E. T. Allen of the U.S. Forest Service attended. Reports and discussion of fire prevention activities during the past fire season in the respective states were the agenda items. Two things became readily apparent—the exorbitant fire losses which had occurred because of the lack of coordinated effort between state and federal agencies and private owners and associations (as contrasted with the excellent record of Idaho) and the advantages of statewide organization.² The principle of cooperative

effort had proven its effectiveness.

While the conference dealt primarily with forest fire protection, specific recommendations such as the following were developed which became the forerunners of legislation in the western states:

- compulsory disposal of logging slash for all states in such a way that the two fold objective of forest protection and forest reproduction best be guaranteed;
- aid, encourage and support any proper measure of forest conservation, especially as a state forestry policy, for the holding of non-agricultural cutover lands as a permanent State Forest Preserve;
- the three agencies (federal, state and associations) now concerned with forest fire protection meet jointly ahead of the fire season and formulate a scheme of cooperation;
- develop an educational campaign 'to create a healthy public sentiment toward the demonstrable fact that an unjust and excessive burden of taxation on timber lands stimulates the removal of timber and consequently decreases the taxable valuation of the counties thus defeating the aim of conservation and preservation of our forests.'³

Probably the most important recommendation and development of the conference was the formation of a permanent organization with the objective of protecting the timber from fire. Initially it was called the Pacific Northwest Protection and Conservation Association but, shortly thereafter, changed its name to the Western Forestry and Conservation Association (W.F.C.A.) when the California protective associations and the province of British Columbia joined. Although the Association was originally formed by representatives of local associations, it spent much of its effort initially in strengthening these associations and in developing some uniform regulations for forest protection to be implemented into state law through the collective action of the associations and agencies. W.F.C.A. was also effective in conveying its ideas nationally, and materially assisted in the development and passage of the Weeks Act in 1911.

The Weeks Law was passed to encourage the protection of watershed lands of the United States but contained some new and far reaching concepts for cooperative forest protection. Section One of the Law permitted individual states to enter into agreements or compacts with other states for the purpose of conserving the forests and the water supply of those states. Section Two of the Law authorized the Secretary of Agriculture to cooperate with any state or group of states in organizing and maintaining a system of fire protection on any private or state forest lands within such state(s) and situated upon the watershed of a navigable river. No such agreement, however, could be made with any state which had not provided by law for a system of forest fire protection.⁴

The Weeks Law also provided that the Secretary of Agriculture could purchase, upon approval by the National Forest Reservation Commission, such forested, cut-over, and denuded lands within the watershed of navigable streams as, in his judgment, might be necessary to the regulation of the flow of navigable streams or for the production of timber. Lands purchased under this act have resulted in the creation of several new national forests in the Northeast and South. The law also provided that 25% of all monies received during each fiscal year from each national forest into which the lands acquired under this act may be allocated should be paid through the Secretary of the Treasury to the states for the support of county schools and roads in the counties in which these lands are located.

*Steele Barnett is Forest Counsel for the Western Forestry and Conservation Association.

The Weeks Law legalized the cooperative forest protective programs developing within and between the states and the federal agencies. It enunciated the nation's recognition of the interstate flow of the waters from forest lands and the interstate commerce of forest products. In addition, this law also established the reforestation mission of the Forest Service as well as its county revenue sharing program and did much to make the nation aware of its responsibilities for maintaining a healthy forest environment. The Weeks Law set the stage for other far-reaching legislation, bringing the federal government into full partnership with the states and the private landowners in developing forestry in the West. The Western Forestry and Conservation Association and the American Forestry Association worked hard with the public and Congress to gain acceptance of these principles.

The Weeks Law established the principle of cooperative forest protection and led to the passage of the Clark-McNary Act of 1924, one of the first and most important pieces of environmental legislation passed in this country. In it was clearly stated this country's intent to see that its forest and water resources were adequately protected against fire and that there was a continuous production of timber from suitable lands. It was also designed to encourage the continuous production of timber on the nation's forest lands. Later provisions of the Act provided for the investigation of forest taxation and insurance, the establishment of shelter belts and farm woodlots, and the purchase of forest lands to become part of the national forests.⁵

The Clarke-McNary Act was the result of the dedication and legislative skills of Representative John D. Clarke of New York and Senator Charles McNary of Oregon. Both of these men were made well aware of the need for forest protection by E. T. Allen of W.F.C.A. and Colonel Greeley of the Forest Service, and drew upon their knowledge and ability to draft the legislation. Many others assisted in its passage, but Allen and Greeley are generally credited with the authorship and success of the bill. The principles enunciated in the Act, backed by federal seed money, have strengthened state forestry departments everywhere, have helped private landowners develop adequate protection facilities and, most importantly, have reduced forest fires to one-tenth the number that occurred prior to its enactment.

The early emphasis in cooperative forestry activities by the private, state, and federal interests was on forest fire protection. This was necessary as landowners and the investment community recognized that expenditures in reforestation and stand management were foolish as long as the threat of fire presented a high risk to the forests and to the capital represented by the timber. To insure permanent forests and a stable forest industry there had to be adequate protection of the forest lands and its growing stock. Industry took the first steps toward organized fire protection and then demanded state laws to enforce laggards to carry their share of the burden. Industry, working with the federal and state agencies, developed cooperative fire protection programs and later fire prevention activities through the Keep Green organizations and other association activities. In the West, the Western Forestry and Conservation Association was the parent organization that brought together those of allied interests, developed cooperative programs and associations where necessary, and carried out state and national legislative battles to gain acceptance of these programs. It was an organization not only to which private and public interests alike might turn with their individual problems to seek the understanding and cooperation of all timber ownerships but also one in which individual interests were submerged for the good of all.

Despite the heavy emphasis on fire protection, the early timber land and forest industry owners and lead-

ers were concerned with growing the second crop of timber as the first was harvested. Logging slash was to be disposed of to reduce fire hazard and to make reforestation easier and more certain. Early reforestation or seed tree laws were promoted by the forest landowners and forest industry. E. T. Allen, as Forest Counsel of W.F.C.A., preached the necessity of promoting conservation as a business enterprise. He told audiences not only that the old forests would not keep and must be wisely used for human needs but also that forest landowners had a responsibility to future generations to be growing new forests, while they harvested the old. Allen stressed that the forest industry's and the public's interests must be intermeshed to support a healthy forestry enterprise. Reforestation had to be more than just a statutory provision or slogan.

Subsequently, through cooperative efforts, the states have developed efficient nursery programs providing planting stock for timber landowners. Industrial associations have developed nursery and tree improvement programs to provide planting stock to their membership. Cooperative cone and seed collection programs between federal, state, and private entities were initiated. The Clarke-McNary Act contributed to the early development of forest nursery programs, but since the output of the nurseries could not be used on industrial lands the industry had to turn to their own resources or to the state on a contractual basis. Cooperative federal, state, and private programs selected superior trees from all classes of ownership for breeding purposes to produce seedlings with improved characteristics. The principle of cooperative effort to solve problems common to all forest ownerships had become ingrained through the need for forest fire protection, but were carried over readily into other problem areas.

The Western Forestry and Conservation Association operates through technical or permanent association committees representing forest fire, forest pests, reforestation, stand management, and land use. These committees present forums to provide for the exchange and dissemination of information pertinent to each of these disciplines, to foster cooperative action on common problems, and to coordinate the activities of regional councils and committees. The regional organizations represent the same interests of fire, pest, reforestation, etc., but in a more limited geographical area and generally in more specific forest types. Some were formed initially to attack specific problems while others began as organizations of people interested in specific disciplines and in promoting the recognition of these disciplines. The former category is represented by the regional forest fire, regional silvicultural councils. The latter are organizations of geneticists, economists, soil scientists, and forest managers who have banded together to advance their sciences and to develop better exchanges of research results and needs. These organizations have done much to develop scientific knowledge in these fields and, more particularly, to encourage interest and training in these disciplines. Membership in the councils and associations consists of educators, public agency researchers and managers, and private industry and association people. These councils and associations mirror the progress of forestry in the West. W.F.C.A.'s initial interests were fire protection and reforestation. These resulted in fire and reforestation committees and regional councils. When it became apparent that the forest could be established and protected from fire then it became necessary to extend this cooperative protection concept to include protection from insects, disease, and animal damage.

The Forest Pest Control Act of 1947 was a result of the organized effort of these and other cooperative councils. This Act states that it will be the policy of the government of the United States independently and

through cooperation with the governments of the states, territories, and possessions and with private timber owners to prevent...control...etc. incipient, potential, or emergency outbreaks of destructive insects and diseases threatening all forest lands, irrespective of ownership. Further the Act provides that the Secretary of Agriculture, as the representative of the government, shall determine a method of cost sharing for any control work carried out by the Forest Service on state and private lands. The formula presently in use provides that the federal government will pay 50% of the control costs on private lands, the state will pay 25% of the cost, and the private landowner will pay 25%. In the case of the state and federal lands the costs are borne by the agencies through their regular or emergency appropriations.⁶

The rationale for federal funding participation in protection programs for state and private lands is based upon the simple fact that fire, disease, or insect outbreak knows no property lines. What threatens one landowner potentially threatens all owners of forest lands. Outbreaks on private lands may very possibly and very rapidly move on to state or federal lands. There is, therefore, an urgency to promptly and effectively control an outbreak, be it fire, insect or disease. Colonel Greeley, then Chief of the U.S. Forest Service, also articulated a broader national view when in 1923 he stated

... with full recognition of the protection of cut over and second growth areas as a fixed part of the program, I advocate basing the national contribution to forest protection upon a plain recognition of an obligation to participate financially because of the national interests at stake and the national benefits to be derived. In other words our cooperative funds should not be viewed as subsidies either to the states or to a particular industry or class of landowners but should be recognized by Congress as a federal obligation of a permanent character inherent in the general timber supply situation of the country and the interstate use of forest products. As far as I can I propose to secure recognition of this principle by Congress.⁷

And so he did with the help of E. T. Allen and others. Greeley's concepts were written in the Clarke-McNary Act. This principle remained firm in the Congressional thinking, and was the underlying thought in such legislation as the cooperative Forest Pest Control Act and, more recently, forestry incentive programs legislation. The federal government working with the strengthened state forestry agencies have an obligation to assist the private landowner in protecting his forest lands; the general public shares in the benefits of water and wildlife production from these lands (for which no revenue is received), and from the aesthetic and recreational benefits of healthy forests.

With forest protection from fire and pestilence a proven possibility, and reforestation an accomplished fact on much of the area, the current forest owner is more concerned with how to manage his second growth stands than how to protect the old growth. Today the cooperative efforts of W.F.C.A., its affiliates and other associations is directed toward developing better knowledge and techniques of the management of the young second-growth stands. Cone and seed insects and diseases are the concerns associated with the new young stands. Genetics are leading to trees with better quality, faster growth, and better pest resistance and these trees will make up our second and third forests. The proper stocking or spacing levels (number of trees per acre and their distance apart) to produce optimum tree growth and quality are subjects of studies carried out jointly by researchers from the federal and state

agencies, and the private companies on lands best suited to give research results, regardless of ownership. In short with forest protection having provided old and second growth forests, and with reforestation having proven successful to the extent that young stands of 20 to 60 years of age abound in the West, today's foresters work cooperatively to insure that future generations will reap the forest benefits. They must also work to meet an ever increasing demand nationally and internationally for wood products from a diminishing commercial forest land base.

Forestry research and education have benefitted from the cooperative approach, and from the support for these activities provided by the forest industry and the forestry associations. Forest research was a matter of individual initiative and very little financial or policy support in the early 1900's. By 1926, however, E. T. Allen of the Western Forestry and Conservation Association took the matter up with Oregon Senator Charles McNary who subsequently secured an authorization from Congress for \$15,000 to establish in Portland, Oregon, a Forest Insect Laboratory of the Bureau of Entomology. In 1928 Senator McNary helped secure the passage of the McSweeney-McNary Act which authorized the Secretary of Agriculture

... to conduct such investigations, experiments and tests as he may deem necessary ... in order to determine, demonstrate and promulgate the best methods of reforestation and of growing, managing and utilizing timber, forage and other forest products, of maintaining favorable conditions of water flow and the prevention of erosion ... and to conduct experiments or develop research information into forest fire and insect protection, the protection of wood in service, better utilization of native and foreign woods and develop timber supply and demand and forest land usage needs projections.⁸

In so doing the Secretary is authorized to cooperate with individuals and public and private agencies in conducting the studies. This act formalized the research activities of the U.S. Forest Service, centered forest research responsibilities therein, and gave forestry research much needed direction and emphasis. The legislation gave the system of regional forest experiment stations stature and direction. Despite the emphasis on forestry research and the formalization of the regional forest experiment stations, the Act was an outcome of the needs for cooperative programs and activities enunciated by the western forestry associations and of the demonstrated success of cooperative effort as shown by the Clarke-McNary Act.

Research did not become identified solely as a prerogative of the Department of Agriculture. Observant foresters had long known that there was a direct correlation between the incidence and spread of fire and the weather, particularly the relative humidity. So pioneers of forestry like E. T. Allen, Gifford Pinchot, and others were instrumental in getting the U.S. Weather Bureau to establish fire weather meteorological stations and to develop much more information about the effect of weather on the incidence and spread of fire. This work led to the development of a network of small weather stations on federal, state, and private lands. More importantly, the incidence and spread of fire was greatly reduced when it became established that relative humidity affected fire behaviour, and that there was a point at which logging operations should be shut down rather than risk a potential outbreak. Today relative humidity measuring sticks are common on most forestry operations and relative humidity points have been agreed upon at which certain degrees of operational shutdown and forest land closures occur.

Forestry education has likewise benefitted from the efforts of these early organizations. The forestry profession, the forest management agencies, and the forest industry were initially concerned with encouraging people to study forestry and to engage in forest conservation activities. These groups worked closely with state legislatures to strengthen and adequately fund the forestry schools of the nation. Particular attention was given to the curriculae and efforts were made to provide practical, broad, and impressive courses. The depression years of the 1930's greatly reduced the forest industry's ability to absorb forestry school graduates and federal agencies became the principal sources of employment. Despite this, the interest and long term capabilities of the forest industry had been established with the forestry schools and forestry courses were tailored to meet the needs of the land. Thus when the industry recovered, the forestry schools were able to provide forest land managers to meet the forest industry needs. Forestry education was given further impetus in 1962 with the passage of the McIntire-Stennis Act. This act recognized that

the total forestry research efforts of the several state colleges and universities and of the federal government are more fully effective if there is close coordination between such programs, and further that forestry schools are especially vital in the training of research workers in forestry.⁹

It provided for a positive coordination and liaison mechanism and for federal grants to support research programs. Thus the cooperative approach to solutions of problems common to all forest ownerships has remained from the earlier days and has done much to strengthen forestry education, research, and service.

The cooperative effort has marked the progress of forestry in the West and will continue to do so in the future. Strong state organizations like the Oregon, Washington, California and Idaho Forest Protection Associations and others have resulted in the passage of far-reaching forest protection and forest practices legislation. Umbrella organizations like the Western Forestry and Conservation Association and its regional groups will continue to serve as a meeting ground for all ownership groups. In 1920 A. L. Flewelling, retiring President of W.F.C.A., summarized the objectives and results of cooperative effort as follows:

A national forest policy which will win public approval must be a good business policy, eliminating overlapping and duplicating departments and agencies and all waste of time and money resulting therefrom. It must fix the assurance in the public mind that an adequate timber supply is being provided for the future by the reforestation of denuded lands and that the forests on the public domain are

being protected and preserved at a minimum expense. It must also comprehend cooperation with all private agencies and private owners of forest lands to the end that the present stand of timber shall be conserved and intelligently protected, that reforestation shall be encouraged and protected by wise and economic tax laws and that denuded forest land be made to yield a part of the timber supply for generations yet unborn. . . . if timber is intelligently cut each year, without waste, true conservation is practiced.¹⁰

Fifty-eight years later a national policy for forest lands still does not exist and is sorely needed as forestry faces the many demands for the use and products of forest lands. However, the principles of cooperation, protection, and incentive as enunciated by Flewelling, and demonstrated by the public and private forestry interests, have emerged in many forms. This has resulted in a viable forest industry and many acres of forest land providing multiple benefits. Although conflicts exist today over the allocation of forest lands to specific single purpose uses, such conflicts are an indirect tribute to those early pioneers who put aside property boundaries and their own individual situations and worked to protect, conserve, and restore the nation's forest lands.

REFERENCES

1. Clyde S. Martin, et al., *Forty Years of Western Forestry: A History of the Movement to Conserve Forest Resources by Cooperative Effort* (Portland, Ore.: Western Forestry and Conservation Association, 1949), unnumbered.
2. *Ibid.*
3. *Ibid.*
4. U.S. Department of Agriculture, Forest Service, *The Principal Laws Relating to Forest Service Activities* (Agric. Handbook No. 453; Washington, D.C.: Government Printing Office, 1974), pp. 117-121.
5. *Ibid.*, pp. 123-128.
6. *Ibid.*, pp. 146-147.
7. Martin, *op. cit.*
8. Forest Service, *op. cit.*, pp. 128-132.
9. *Ibid.*, pp. 188-190.
10. Martin, *op. cit.*



(Pierre Joseph Buc'hoz's *Catalogue Latin et François des Arbres et Arbustes...*, 1785)

FOREST FARMERS ASSOCIATION: A VOICE
FOR SOUTHERN TIMBER RESOURCES

by

J. Walter Myers, Jr.*

Forest Farmers Association, an organization of timberland owners of both small and large acreage, has active members in virtually every forested county in the 15 southern states. While its membership includes large industrial timberland ownerships, the great majority of "forest farmers" are private, nonindustrial owners whose lands collectively represent 70% of the South's total commercial forest lands. Forest Farmers Association is the only organization created specifically to represent southern timberland owners at local, regional, state, and national levels. Rather than any special industrial interest, it is spokesman for the timberland owner who grows trees for the range of timber and fiber markets: lumber, pulpwood, furniture stock and veneer, and plywood.

It is significant that more than 85% of its active members own fewer than 500 acres, some managing as few as 50 acres. What they have in common is a desire to maximize their forests' production of wood and fiber, one of our nation's greatest renewable resources, in a manner consistent with sound economic and environmental considerations.

In recent years, the increase in wood and fiber market demand have been met largely through improved production on large public and industrial forest lands. Despite intensive forest management, however, these lands, alone, will be unable to grow all the timber to meet the nation's needs. In light of this, the role of the private, nonindustrial owner emerges as immensely important. If future wood and fiber needs are to be met, more of the nation's total forest resources, particularly those of private individual owners, must be made accessible to the market. Not only do private nonindustrial owners control the largest part of total forest land but also their forests have the greatest potential for increasing further the overall forest yield through adoption of improved practices.

Forest Farmers Association comes into the picture with its efforts aimed at motivation and instruction of the small forest owner. All the Association's activities and programs relate to these two considerations: motivation for growing trees and instruction in how to do it better. The motivational aspect is quite complex in that it often involves a combination of economics and aesthetics. Many of the small private forest ownerships are maintained for reasons other than making money. Some owners want forest land for recreation, for environmental protection, for privacy from neighbors; some may be interested in the raw land alone as a speculative real estate investment. Improved forestry practices, the Forest Farmers Association asserts, can be compatible with any of these considerations while producing additional profit for the owner and wood for the consumer. Furthermore, it can be done while actually increasing a renewable natural resource.

Economics as motivation for the practice of good forestry involves the Forest Farmers Association in the search for new and expanded markets for forest products and other factors such as a more equitable system of forest taxation. People growing trees need to know of the improved pulpwood market in the South that has resulted from this region's rapidly growing pulp and paper manufacturing industry. Veneer logs for plywood claim a large part of the timber market now, providing

the forest owner with another alternative at harvest time. Owners need to know as well about whole-tree utilization and portable wood chipping operations that can allow profitable harvests in low-grade forests and make room for better tree stock. Meanwhile, timber growing for sawlogs and poles and piling continue as mainstays in the market place. These and many other developments in forestry are brought to the attention of forest owners through the Association.

Taxation intrudes so strongly into the economics of tree-growing that it has become a major concern to all facets of forestry. The Forest Farmers Association is often in the role of forest owners' advocate before Congress and other agencies whose authority impacts on one phase or another of forestry. Indeed, it was the need for a voice representing timberland owners, large and small, among powerful policy-making bodies that led to the creation of Forest Farmers Association. The idea resulted from an accidental meeting on a train of two old acquaintances, one a local judge and president of American Turpentine Farmers Association on his way to a Congressional hearing in Washington, D.C., the other a forester for the owner of substantial timber acreage near Fargo, Georgia, at the edge of the Okefenokee Swamp. The late William M. Oettmeier was the forest owner's representative and, in his own words, here is how he was led to organize Forest Farmers Association:

It was in about 1938 or 1939 that I was on the train to Washington, going there for a meeting with the Federal Communications Commission about radio frequencies. I ran into Judge (Harley) Langdale on the train and he said, "I suppose you are going to the meeting, too." I told him that I was going to a meeting but I felt sure it wasn't the one he was going to.

After a little discussion he told me that he was invited to a forestry meeting and suggested that I go with him for he felt that I knew a lot more about forestry than he did. It just so happened that my meeting was over in time enough for me to attend the meeting with the Judge, and I went as a representative of American Turpentine Farmers Association.

There must have been forty people representing every organization and association anywhere remotely connected with forestry. The meeting was called by the U.S. Forest Service, practically for the purpose of deciding the fate of private forestry, yet every one was represented except the private forest owner. It was just by accident that Judge Langdale was there as president of ATFA and, of course, I wouldn't have been there if it hadn't been for running into the Judge on the train. It wasn't a matter of discrimination that private interests were not invited. There just wasn't anyone to invite as a representative. At that meeting I got to thinking that here was a group deciding the fate of private forestry and not a soul was there to represent the industry as a whole. That is what brought on the Forest Farmers Association. . . .

Bill Oettmeier's idea was to form an organization made up of timber growers regardless of what industry might finally use their products. The first meeting to consider organization of such an association was held at the Roosevelt Hotel in Jacksonville, Florida. Those attending included 18 prominent Georgia, Florida and Alabama landowners representing a total ownership of 1,006,000 acres of timberland. The list of those participating in this first meeting reads like a "Who Was Who in Southern Forestry."¹ The aims and purposes of the proposed organization as outlined at this first meeting were: (1) to unify the great industry of timber

*J. Walter Myers, Jr. is Executive Vice President, Forest Farmers Association.

growing and to give landowners political weight; (2) to assist in the improvement of forest practices and cooperation with state and federal governments to bring about better forest conditions; (3) to assist landowners to market forest products at a better advantage; (4) to improve the marketability of pulpwood throughout the South and to work toward bringing more wood-using industries to the area.

After hearing the proposal, Judge Langdale made a motion that a timber growers association be formed although a name had not yet been selected and that a committee be appointed to work out details. This was unanimously approved and the following individuals made up this organizational committee: W. M. Oettmeier, Judge Harley Langdale, H. M. Wilson, S. J. Hall, and A. V. Kennedy. It was decided that the actual organizational meeting of the new association be called for December 6, 1940, again at the Roosevelt Hotel. At this meeting it was voted to form the "Forest Farmers Association" with a total of 33 charter members.²

Shortly thereafter, the new Association started operation, utilizing a portion of the office space occupied by the American Turpentine Farmers Association in Valdosta, Georgia. Meanwhile, it had been recommended that the Association initially seek membership in the states of Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Texas. Dues were set at \$1 basic fee, plus 10 cents a year for each 100 acres owned. The Association then set out to employ a paid secretary, preferably a professional forester, at a suggested salary of \$1,800 per year. A recommendation suggesting that the Association establish some type of publication for its membership soon led to the birth of *Forest Farmer*. The first formal meeting of the Forest Farmers Association was held at the Daniel Ashley Hotel in Valdosta, Georgia, on April 17, 1941. Bill Oettmeier was elected president and E. M. Oliver of Valdosta was named to serve as secretary until one could be employed. On July 1, 1941, Wayne G. Miller, weekly newspaper editor, became the Association's first paid secretary. The first annual Southern Forestry Conference was held January 15 and 16, 1942, in Jacksonville at the Roosevelt Hotel. Here the new secretary reported that the Association had a budget for the first year of \$7,500. In October 1941 *Forest Farmer* appeared as a mimeographed sheet but it was May 1942 before it became a printed publication.

From its beginning, leaders in the Association emphasized the importance of making their organization spokesman for timberland owners in legislative matters. They paid particular attention to such fields as timber capital gains treatment in the Tax Code, adequate government financing for fire protection, forestry research, tree planting, forest disease, and pest control. Forest Farmers Association is recognized today as one of the major forces behind successful efforts to secure capital gains treatment for timberland owners, legislation that was enacted in 1944. Through the years the Association has continued to work vigorously to maintain this legislation which is so vital to timber growing. As a staunch supporter of U.S. Forest Service as well as state forestry programs and other forestry development efforts of broad national significance, Forest Farmers Association has continuously promoted good forestry practices and public policies that would be compatible with them.

At one time it fell to the Forest Farmers Association to actively oppose proposals for federal regulation of forest cutting practices. The members felt that the proposal was ill-conceived and unnecessary. Its defeat, partly through the Association's efforts, convinced the membership of the validity of their role as advocates for the private forest landowner in the South.

Forest Farmers Association continued to grow both in numbers and in its involvement with political issues affecting forestry. President Oettmeier was away from 1942 to 1946 on duty as captain in the Army Air Force. C. P. Kelly of Madison, Florida, acted for the president until his return from the war. The young Association suffered a serious setback when its executive secretary, Wayne Miller, died suddenly on a trip to Washington in 1946, where he was scheduled to testify before a Congressional committee. He was succeeded by Paul W. Schoen, a professional forester with the Texas Forest Service. Schoen remained with Forest Farmers Association until 1951 when he resigned to accept another position. It was during his tenure that the U.S. Forest Service initiated the first local research centers and Forest Farmers Association devoted much time and effort in support of their establishment. It was Paul Schoen who conceived *The Forest Farmer Manual* and produced its first two editions. As a reference and resource tool for people in forestry, its popularity has spread from year to year and its publication is a major part of the Association's overall service program.

J. Walter Myers, Jr. was named executive director succeeding Paul Schoen in 1951. A professional forester, he came to the Association from the Illinois Central Railroad where he had served as forestry agent. His experience also included service with the Louisiana Forestry Commission and the U.S. Forest Service. Bill Oettmeier remained as president of the Association until 1952 when J. V. Whitfield of Wallace, North Carolina, was elected to succeed him. By 1953, when the Association headquarters were relocated in Atlanta, Georgia, closer to the center of its area of activity, membership in the Association extended throughout 15 southern states.

Harley Langdale, Jr., son of the man who had triggered Bill Oettmeier's interest in forming an association of timber growers, became Association president in 1958, the first to serve a specified two-year term. His successors were Herman E. Baggenstoss, John W. Squires, T. W. Earle, Frank W. Bennett, O. G. Traczewitz, and Albert Ernest, Jr. In 1973 the president's term was changed to one year and the office of president-elect created. L. F. Kalmar was the first to serve a one-year term. He was followed by Marcus G. Rawls, Wilbur B. DeVall, John F. Sisley, A. Felton Andrews, Herman M. Hermelink, current president, and Ralph W. Law, president-elect.

Maintaining its instructional role, Forest Farmers Association constantly disseminates information to its members and subscribers of *Forest Farmer*, keeping them apprised of latest developments on forest regeneration, tree improvement, stand management, insect and disease control, as well as dozens of other facets of modern forestry. Because the great majority of private non-industrial owners of forest lands are not themselves professional foresters, the journal, manual, and other material published by the Association are written in layman's language. They focus, moreover, on the practical aspects of forestry rather than the theoretical ones.

In June 1966 and October 1972 the Association sponsored tours to the Sixth and Seventh World Forestry Congresses in Madrid, Spain, and Buenos Aires, Argentina, respectively. In 1974 it sponsored a forestry study tour to Germany's Black Forest and surrounding countries. All of the tours were well received and highly productive. An outstanding contribution by the Association in recent years has been the Southern Forest Resource Analysis which it and the Southern Forest Products Association initiated as principal co-sponsors in 1966. This analysis resulted in "The South's Third Forest" report in 1969, authored by Project Leader Philip R. Wheeler. The report provided the basis for much of the private forest development plans through the 1970's and

the federal Forestry Incentives Program is a direct outgrowth of that report.

Forest Farmers Association has been deeply concerned with the wide range of environmental-oriented legislation in recent years, and has been effective in moderating governmental regulations that would have been impractically stringent. Again as a spokesman for the private timber owner, the Association has been able to assist policy-makers at state and national levels in developing more equitable environmental legislation, regulations that might otherwise be destructive of the very resources they seek to protect.

Wood's emerging use as a renewable energy source is opening new avenues for exploration by forest landowners in the South. Forest Farmers Association is keeping members and subscribers informed of developments in this field and of opportunities which are offered in this regard. Having gained a healthy measure of respect for its policies through the years, the Association anticipates a role of continuing leadership. Forest owners are challenged, today as never before, to meet an increasing demand for wood and fiber while protecting the renewability of their woodlands and enhancing the opportunity for development of forest resource amenities.

Today the Association ranks among the leading forestry organizations in the South where forestry has so rich a potential for further development. The fact that 85% of its active members are small, private, nonindustrial owners—the very ones with whom the greatest opportunity for increased forest productivity exists—puts Forest Farmers Association in the lively center of activity.

REFERENCES

1. Attendees at the first meeting leading to the later formation of the Forest Farmers Association were: Judge Harley Langdale, Sr., Valdosta, Georgia; J. T. Miller, J. T. Miller Turpentine Company, Palatka, Florida; H. M. Wilson, T & R Factors, Jacksonville, Florida; S. J. Hall, consulting forester, Jacksonville, Florida; S. E. Fogelberg, later of the International Paper Company, Glen St. Mary, Florida; J. E. Woodman, consulting forester, Jacksonville, Florida; E. W. Scherer, Brooks Scanlon Lumber Company, Foley, Florida; Noah Stokes, St. Marys, Georgia; W. C. Hopkins, Toledo, Georgia; A. V. Kennedy, Waycross, Georgia; W. B. Gillican, Homerville, Georgia; G. W. Varn, Valdosta, Georgia; J. E. Mathis, Valdosta, Georgia; Julian F. McGowin, W. T. Smith Lumber Company, Chapman, Alabama; W. T. Neal, T. R. Miller Mill Company, Brewton, Alabama; E. A. Houss, Century, Florida; E. C. Stallworth, Bay Minette, Alabama, and Colin P. Kelly, Madison, Florida.
2. The charter members of the Forest Farmers Association were: Okefenokee Naval Stores Company, Inc.; H. F. Sears; Slash Pine Farms, Inc.; Waycross Properties, Inc.; H. Langdale & Harley Langdale, Jr.; Bennett Langdale Company; Langdale Turpentine & Cattle Company; The J. W. Langdale Company; A. V. Kennedy; C. V. Mise; J. E. Dyal; W. E. McArthur; J. H. Young; Philips Naval Stores; Loncala Phosphate Company; J. N. Youmans Estate; H. J. Westberry; The Alapaha River Land Company; Philips Turpentine Company, Inc.; Y. A. McColiskey; Waynesville Naval Stores Company; D. E. Coleman; Thos. E. Casey & Wife; R. R. Walker; Putnam Turpentine Company; J. T. Miller Turpentine Company; King Bros. Motor Company; Daugharty Bros.; Hayne Booker; Star Naval Stores Company; Carolina Land Company; J. O. Huxford, and Superior Pine Products Company.



("The White Maple" in *Amer. Agric.*, June 1865)

PUBLIC ACTION IN FORESTRY:
THE SOCIETY FOR THE PROTECTION OF
NEW HAMPSHIRE FORESTS

by

Gerald R. Ogden and Leslie S. Clark*

For generations New Hampshire's scenic mountain splendor has served as a refuge for the city dweller. Weary of the constant activity of urban life, visitors migrate to the Granite State to view its impressive scenery and to absorb the benefits of being "back-to-nature." They come to see the White Mountains, site of Mt. Washington, the tallest peak in the Northeast, the granite profile of a human head known as the Old Man of the Mountain, and the steep and dramatic beauty of Crawford Notch. They also share the grandeur of Mt. Sunapee, Mt. Monadnock, and dozens of other lesser known but equally precious natural landmarks.

These nationally known bits of New Hampshire have not always been public reservations, forever protected from destruction. As late as the end of the nineteenth century and for over a dozen years into the twentieth, loggers who worked the forested northern part of the Appalachians continued to reap an abundance of the native pine trees from the magnificent resource base. But within a short span of years following the nation's celebration of its centennial, harvesting practices within the region began to change. Gone were the days when high grade logging, selecting the finest and tallest of the pine, was practiced. Instead, the dwindling resource base, the increased consumer demands, and a newly developing pulp and paper industry increased pressures to strip the mountain sides of even the smallest of trees. Down through the valleys lying between Mt. Washington, Mt. Jefferson, and Mt. Monroe swept the cutters. Then up the steep slopes the lumbermen climbed to garner the last vestiges of the once virgin forest.

Although lumbermen of the Northeast displayed a greater sensitivity to the destruction they caused than did their peers in other areas of the country, they did not cease their endless cutting or institute management practices to conserve the forests. If the forests, the scenic beauty, the natural areas were to be saved, therefore, private citizens would have to initiate programs or movements to preserve the forests of the northern Appalachians. In 1901 the citizens of the Northeast responded by forming the Society for the Protection of New Hampshire Forests.

Attempts at preserving the forests of New Hampshire and the Northeast were not a new development. Public efforts at regulation of timber cutting date to the Colonial era. Town elders during the early settlement period were not unaware of the implications that active utilization of the local forest resources had on their communities. And, once a town was sufficiently mature to allow the consideration of such matters, the question of protecting local timber lands (generally the commons), either to insure a supply of lumber or for scenic purposes, was frequently approached. In Portsmouth, New Hampshire, for example, local residents imposed a penalty of five shillings for every tree cut by an inhabitant, except when needed for the construction of buildings, fencing, or for firewood. And, in the nearby town of Dover, ten shillings were imposed as a fine on any individual who cut more than the ten tree limit which was established by local ordinance. In

Kittery, New Hampshire, too, there was a limit imposed on the number of trees that could be cut before being manufactured into wood products.¹

There were also occasions when private groups concerned with the disappearance of valued timber stands formed private associations in order to preserve an area. One such organization which formed in February, 1786, in Hampton, New Hampshire, dedicated itself to the purchase and fencing of a certain tract of trees in an area referred to as the "great swamp."² Ostensibly this was to be maintained as a private reserve.

Succeeding generations continued to try to preserve New Hampshire forests. For the most part, however, their efforts were futile and unrewarding although they were utilitarian in nature for the passage and sometimes the implementation of forest laws were directed toward fulfilling the immediate needs of the townspeople. Little progressive legislation of long-term benefit was forthcoming that would insure future supplies of timber. And, for the most part, timber harvesting continued unabated well into the twentieth century.

Particular circumstances, coupled with the activities of a concerned, hard-working, dedicated, and vociferous citizenry, changed this course of events. The decline of prime standing timber and the growing needs for lumber and pulpwood led entrepreneurs to speculate in timber lands. This aroused the ire of many citizens including many tourists, for the destruction or potential destruction of prime forest recreation lands was involved. The threat of a declining tourist trade, a \$5 million business at the time, also provoked the region's commercial interests. Businessmen, manufacturers, and many others were convinced that indiscriminate cutting of forests influenced the water flow along the nation's navigable streams. Forest removal increased the rate of erosion which, in turn, increased silting behind mill dams and lowered water quality—and pure water was required by the textile industry for bleaching fabrics. With the continued migration of the textile and furniture manufacturing industries from the Northeast to the South, this latter fact became of particular concern to New Englanders.

Lastly, the fact that other efforts to extend the idea of forest conservation were occurring at the time aided the rising Northeastern movement. At the national level, Gifford Pinchot and the Bureau of Forestry, blessed with the backing of Theodore Roosevelt, pressed for increased forest reservations in the Western United States and the establishment of reservations in the South. On a smaller, more localized scale, the Appalachian National Forest Association had recently formed in the South for the purpose of influencing the federal government to enact legislation authorizing the purchase of private lands, their enclosure, and the establishment of national forest reservations. The support, or more accurately the lack of support, provided by these two organizations in the early years of the Society had a decided effect on its operations.

The idea of establishing forest reservations, either state or federal, did not rest with either the Southern or Northeastern movements but can be traced back to the early 1880's. In 1883 New York established its Adirondack Park. In the same year Joseph B. Walker, famed as the father of New Hampshire forestry, spoke before a group gathered at the annual meeting of the New Hampshire Fish and Game League in Manchester. Following his condemnation of forest owners and their "...stupid and reckless treatment of [their] forests ...," he suggested that an investigation be made to obtain "...accurate information relative to the present extent, condition, and management of our forests," and to determine the proper methods of controlling the continued destruction.³ Walker also suggested the implementation of tax and fire laws and that the state "...

*Gerald R. Ogden is an Historian with the U.S. Department of Agriculture, and a member of the Society for the Protection of New Hampshire Forests. Leslie S. Clark is Education Director for the Society.

purchase, at low and established prices, ... some of the denuded areas recently cut over, to be held and managed hereafter as public forests."⁴ The New Hampshire's idea was endorsed by both Franklin B. Hough, of the U.S. Department of Agriculture, and Charles S. Sargent, the noted arboriculturist.⁵ As a result of Walker's suggestion the New Hampshire Forestry Commission, first appointed in 1881, was thereafter sanctioned by the state legislature to accept donations of lands and monies for the establishment of reservations.

A second Forest Commission was appointed in 1883 and a third in 1892. The latter Commission, hoping to supplement the existing program, further recommended that the state exercise its right of eminent domain to acquire lands. The political environment, however, did not allow the exercise of right of eminent domain; public apathy (by 1896 only \$1,600 was donated to the acquisition fund) and general legislative disinterest, among other things, delayed the development of the program.

Within this context individual citizens sought relief from the forestry problem through the formation of organizations. In the absence of a general recognition of the true problem, criticism was at first leveled against land speculators, particularly the "evil" lumber barons who had, and were, acquiring forest lands by buying tax titles, then forcing occupants off the various properties. Entire hamlets thus came under the control of land companies. John E. Johnson, an Episcopalian missionary, a self-proclaimed "Missionary for the Headwaters of the Merrimack," and a follower of Henry George—journalist and advocate of economic reform—initiated the campaign in his tract entitled *Help for the Hills: The Boa Constrictor of the White Mountains, Or the Worst "Trust" in the World. An Account of the New Hampshire Land Company....*⁶ The agricultural press took up Johnson's campaign and the editor of the *New England Homestead* called for the formation of an organization, which might be called the White Mountain Forestry Association, to help mould public opinion against the "lumber barons."⁷ The November 24, 1900, edition of the paper contained a blank application to be filled out by those citizens who might join such an association. Sufficient response over the succeeding weeks then prompted the editor to call for a public forestry meeting on January 21, 1901.⁸

Although perfunctory in terms of establishing a working association, the meeting did bring together an amalgam of individuals interested in forestry conditions within the region who were willing to devote the necessary time and energy to bring about a successful program of forest conservation. Having been active on an individual basis in forming organizations of their own, the attendees at the Concord, New Hampshire, meeting subsequently pooled their efforts. Frank W. Rollins, ex-governor of the State, anxious to start an organization, gave his endorsement. Edward Everett Hale, Chaplain of the United States Senate and promoter of the preservation of New Hampshire forests, and the short-lived Intervale Society later joined the group. At the suggestion of Mrs. Ellen M. Mason, representative of the New Hampshire Federation of Women's Clubs, the new organization was called the Society for the Protection of New Hampshire Forests. The initial purpose of the society was

...to preserve the forests, protect the scenery, and promote the establishment of good roads in New Hampshire; and to co-operate in other measures of public importance in the state.⁹

With insight into the past problems of forest conservation, the new Society identified two principal means of preserving the forests of the Northeast: 1) federal legislation to provide authorities the necessary legal means to purchase private lands for inclusion in pro-

posed federal reservations, and 2) state legislation to create a number of state parks and forest reserves similar to those being developed in New York and Pennsylvania.

Political support at the legislative level depends to a large degree on constituent pressures. Needing substantial backing from New Englanders, the Society immediately established public education in forestry matters as a primary goal. Within a few months following organization the Society began sponsoring a number of educational activities. For instance, in 1901, essay contests for high school students were encouraged and essayists were given such topics as "What Should Be Done for the Preservation of New Hampshire Forests?" Prizes were offered for the best papers: fifteen dollars for first prize; ten dollars for the runner-up.¹⁰

Frequent news releases and articles were also sent to regional papers. Posters explaining the purposes of the Society were shipped to the owners of many boarding houses in the state. Speakers were provided to any organization that took time to listen to the Society's appeal. For example, Joseph T. Walker spoke to the local Grange; Dr. John D. Quackenbush, Columbia University professor, lectured on "Standing Forests and Public Health," and other speeches were made on such diverse topics as "Forests in Their Relation to the Fall and Distribution of Rain," "Forests as Reservoirs of Pure Air," and the "Psychic Influence of Forests." It became a moment of satisfaction to the Society when the populations of Plymouth, Bethlehem, and Jefferson gathered together to hear a visiting speaker. Society members, however, soon discovered that esoteric speeches and a soft-selling of the forest conservation issue did not generate sufficient public response and occasionally elicited a poor press. As the editor of the *Boston Transcript* said of the Society's first annual report:

Its academic merits do not particularly challenge criticism, and it is very largely academic.... But it seems to reflect a fear that somebody's feelings might be hurt if it called things by their right names and made practical suggestions bearing upon the immediate dangers of the situation. It roars too much of the sucking-dove tone. Like the Forestry Commission of the State, it is content with a campaign of education.¹¹

The implication that they were "sentimentalists" or "nature lovers" appealing only to lovers of scenery in their educational campaign was not well received by the conservationists. The Forest Commission's idea that the state should acquire forest lands by purchase or donation received little attention and the response by the public for donations of land and money for the establishment of parks was disappointing. The ideas of state intervention in the preservation of the forests as well as the establishment of federal forest reserves continued to persist. So, at the urging of Frank Rollins, Austin Carey—forester at the Berlin Mills—and others, it was determined that the earlier more prosaic lectures be discontinued and others, on the more practical and scientific aspects of forestry, be substituted. It was ill-advised to talk in terms of the depletion of forest resources when, in fact, no one knew much at all regarding the damage or extent of the resource base. So the conservationists additionally proposed that a forest census or survey be taken and a professionally trained forester be hired by the Society to oversee these activities. Phillip W. Ayres was subsequently hired in the latter part of 1901 as the organization's first forester.

A dedicated and hard-driving individual, Ayres was

matter-of-fact in his attitude toward the conservation of New Hampshire's forests. When interviewed by Rollins in Boston, Ayres quite bluntly informed the Society's president that the current practice of "cussing the lumbermen" for their harvesting practices was a waste of breath, that it was impractical to think any Congressional or State legislative action could control lumber operations, and that the only way to change the management of forest lands on the upper mountain slopes was to change ownership. Rather brazenly, particularly since he was unemployed at the time, Ayres agreed to undertake the work only if Rollins and the Society would endorse his proposition that a national forest reserve be established in the White Mountains. Fortunately for Ayres, for the Society, for forestry in the Northeast, and for the conservation movement in general, Rollins agreed to the demands.¹²

The new forester remained true to his word. Although adamantly opposed to land speculation, he worked to educate and aid the lumbermen in their operations and worked zealously to promote the acquisition of land by the federal government. Assuming the posture that he did, neither Ayres nor the Society presented a threat to lumbermen; indeed, a spirit of cooperation between the two groups has existed to this day.

Like the lumbermen, many others cooperated with the Society in the campaign for the establishment of eastern national forest reserves including the following: the Appalachian Mountain Club; the Boston Chamber of Commerce; the Massachusetts Forestry Association; the Twentieth Century Club of Boston; New Hampshire Federation of Women's Clubs; New Hampshire State Grange; the American Paper and Pulp Association; the Boston Associated Board of Trade; New Haven and Coast-wide Lumber Dealers' Association; National Wholesale Lumber Dealers' Association; Boston Lumber Trade Club; Boston Merchants' Association, and the Connecticut, Rhode Island, and New Hampshire State Lumber Dealers' Associations.¹³ Civic organizations, nature groups, and similar bodies added variety to the movement. This diverse support indicates that the Society approached the conservation idea in a realistic manner and that a certain unity existed within the Northeast in supporting a worthwhile and common cause.

Yet the White Mountain campaign also had its detractors. Gifford Pinchot, officially the forester of the United States but lacking control of the nation's forest reserves,¹⁴ acted coolly towards the efforts of the Society for a number of years. Seeking to demonstrate the Bureau of Forestry's ability to provide sound forest management practices, Pinchot early became a supporter of the Southern movement and pushed heavily for the creation of reserves in the southern Appalachians. The Northeastern contingent of the conservation crusade distracted and perhaps to some degree threatened the creation of reserves in the South by diverting attention from the Southern movement. Pinchot's prestige as doyen of the conservation movement was thus challenged and the opportunity for the Bureau to become a manager of a series of reserves was delayed. For these and other reasons, the forester withheld full endorsement of the White Mountain reserve until 1905 when the Bureau of Forestry was given authority by Congress to manage the country's reserves.

Southern forest conservationists, gathering under the banner of the Appalachian National Forest Association, felt equally threatened by the Northeastern movement. For practical purposes, the southern organization never generated the support nor had the political backing received by the Society and its allies. The possibility became very real, then, that the northern portion of the Appalachian Mountain chain might realize the creation of a reserve before that of the South. The northern crusade did distract from the efforts of the Association and, although overtures were made toward

cooperation and mutual support, in reality they posed a threat to each other in pursuing their singular goals.

The division between the two groups seemed to provide support for the position held by Joseph G. (Uncle Joe) Cannon, Speaker of the U.S. House of Representatives and an obstinate opponent of the creation of national forest reserves in the East. The Speaker and other fiscal conservatives maintained that the creation of such reserves through federal legislation would prompt drives for the creation of federal reserves in other regions. Such a reaction, they feared, could not be controlled and Congress could then be accused of opening wide the doors to the U.S. Treasury for limitless "pork-barrel" legislation.

Following six years of sustained effort on the part of the southern group and five years of campaigning by the northeasterners, by 1906 conservationists were little closer to achieving their goal than at the beginning. In January of that year, the Appalachian National Forest Association relinquished its leadership to Pinchot, the campaigning to the American Forestry Association (AFA), and thereafter disbanded. The Society for the Protection of New Hampshire Forests did not follow suit but, rather, reached an agreement to work cooperatively with the AFA in the campaign. In doing so, a united front was organized which would, conservationists felt, generate increased public support to overcome legislators' objections to the establishment of eastern forest reserves.

Campaign tactics were also modified. There was a general downplaying of appeals for the reserves on the basis of saving scenery or preserving natural areas and an increased emphasis upon the technological and scientific warrants for forest conservation. Constitutional justification was also sought to legitimize the federal purchase of private lands and to establish reserves from these acquisitions. By a decision of the House Judiciary Committee, this justification was found in the clause permitting Congress to protect the nation's navigable streams. Despite the elimination of constitutional objections and the increase in public support, Congressional opposition in the House of Representatives remained too formidable for the passage of legislation.

As a diversionary measure, conservative Republicans introduced legislation to divert attention from demands for federal aid, suggesting instead that the establishment of reserves become the prerogative of the several states. Charles F. Scott, Chairman of the House Agricultural Committee, with the blessing of Cannon, authored the bill H.R. 21986. In essence, the bill gave congressional consent to each of the several states to enter into agreements or compacts with any other state or states for purposes of conserving forests and water supply of said states.¹⁵ The bill also authorized the Secretary of Agriculture to cooperate in the organization and maintenance of a system of fire protection on private and state forest lands within such state or states as would agree to cooperative action provided the protected lands were situated upon the watershed of a navigable stream. The Scott bill did not pass the House. It remains of considerable importance, however, for the cooperative fire protection feature of the bill serves as the origin of the cooperative forestry program currently being conducted by federal and state governments.

Quickly recognizing the value of a national cooperative forestry program as written in the Scott bill and seeing that the inclusion of such a provision in their own legislation would abet their own goals, the conservationists included a similar clause in a new bill which was introduced by John W. Weeks of Massachusetts in 1909.¹⁶ Although it took yet another two years to

pass, in March of 1911, the Weeks bill was signed into law.¹⁷ The Society, the easterners, and the southerners had, indeed, been victorious. And, following a delay of several years due to surveys, purchasing and passing titles on selected private lands, etc., the White Mountain and a series of other national forests were created in the area east of the Mississippi River. Today, the process of purchasing additional lands and forming them into contiguous units is administered by the National Forest Reservation Commission.

True to their original commitment, the members of the Society for the Protection of New Hampshire Forests did not restrict their activities to campaigning for the creation of a federally owned national forest. Parallel efforts were directed at preserving scenic and natural areas within the State, in campaigning at the state level for forestry reform bills, and in bringing professional forestry management to private woodland owners. Additional programs include more recent efforts to encourage better land utilization inclusive of open space concepts and energy conservation.

A sample of the Society's more notable achievements at the regional level should be mentioned. In 1909, after lumber companies had already defaced much of Mt. Sunapee by the clearcutting method, Society members raised \$8,000 to purchase 656 acres along the mountain's summit. This land was managed by the Society until 1948 when it was donated to the State to become the nucleus of Mt. Sunapee State Park. Crawford Notch was preserved as a state park through Society efforts after members persuaded the State legislature to appropriate \$100,000 for its purchase. Lost River Reservation, another White Mountain landmark, is owned and preserved by the Society; more than 80,000 visitors visit this fascinating rock and water formation annually.

Mt. Monadnock, the lofty southwestern New Hampshire peak that inspired Ralph Waldo Emerson, Henry David Thoreau, and many other artists, poets, and writers, also was threatened by timber cutting. Some of the mountain had already been protected by local people but other parts were held by descendants of the "Masonian Proprietors," who acquired the land from the heirs of Captain John Mason. Mason had been granted title to most of New Hampshire by the British Crown in 1629. The Society located 129 of the Masonian descendants and persuaded 81 of them to relinquish their interests in the Monadnock land to the Society. Today the Reservation and Monadnock State Park annually host thousands of visitors who come to the mountain for picknicking, hiking, snowshoeing, and other outdoor recreation.

Perhaps the Society's best known land protection campaign, however, was its effort to save nationally known Franconia Notch, home of the Great Stone Face or Old Man of the Mountain. The 6,000 acre Notch is also the site of the Flume and the Basin, two unique water-carved rock formations, Echo and Profile Lakes—tiny but beautiful—and the towering slopes of Cannon Mountain.

In the 1920's, the Notch, like most of the State, was privately owned and its beauty was threatened by timber cutting. Fearing the destruction of the Notch's scenic value, the Society drafted legislation authorizing the State to buy the land for purposes of establishing a state reservation. Governor John G. Winant, a Society executive committee member, stated that the state could afford to pay only half of the \$400,000 being asked for the land. The Society decided to raise the remainder through donations. One donor, James J. Storrow, developer of Boston's Back Bay, donated \$100,000. The Federated Women's Clubs raised another \$82,000, partly by "selling trees" in the nationally known Notch to 15,000 persons for a dollar a tree.

The Society has also been instrumental in the passage

of forestry reform bills. One such legislative measure provided for a full-time state forester/fire warden and part-time deputy fire warden to be located in every city and town. Other measures established laws to help prevent forest fires. A successful campaign was conducted to repeal the state's annual timber tax which was replaced with a yield tax. The purpose of this measure was to reduce the premature cutting of trees to avoid annual taxes. The Society also provided the necessary impetus needed by the legislature to establish a state nursery.

Today the Society continues its historic role as a protector of the State's renewable resources. It employs a full-time land protection director who helps guard thousands of acres of valuable forest and scenic lands, either through outright purchase or through a special legal device known as a conservation agreement. The organization also "preacquires" land for later resale to government agencies. In a continuing program, the Society offers lectures and exhibits at its Ecocenter at Mt. Monadnock and at its Interpretive Center and Nature Garden at Lost River. Modern forestry techniques, including thinning, weeding, and selective cutting, are demonstrated on the Society's more than 10,000 acres of forest land throughout New Hampshire. The Society encourages efficient private forestry through the New Hampshire Tree Farm System which it initiated in 1950; at present, through the Society's efforts, more than 700 tree farmers—owners of more than 700,000 acres of forest lands—provide proper management to produce a healthy timber crop.

Today's Forest Society remains a voice for New Hampshire's precious natural resources, its beautiful and as yet unspoiled lakes, rivers, and forests. Its aim is to keep New Hampshire the place Thoreau had in mind when he wrote of a "New Hampshire everlasting and unfallen."

REFERENCES

1. Jay P. Kinney's works, *Forest Legislation in America Prior to March 4, 1789*, Cornell University, Agricultural Experiment Station of the New York State College of Agriculture, Bull. 370 (Ithaca, N.Y.: Cornell University Press, 1916) and *The Development of Forest Law in America: A Historical Presentation* (New York: John Wiley and Sons, Inc., 1917), remain the most definitive works to date on early forest law.
2. The Hampton Wood Society originated in February, 1786, and existed at least through March 6, 1787. See Minutes (copy), "Hampton Wood Society, 1786," MSS, Historical Collections Folder, History File, Society for the Protection of New Hampshire Forests, Concord, N.H. Hereafter cited as SFPNHF.
3. Joseph B. Walker, *The Forests of New Hampshire: An Address before the New Hampshire Fish and Game League...April 5, 1883* (Concord, N.H.: Republican Press Association, 1883), pp. 14, 15, 25-28.
4. *Ibid.*, p. 28.
5. U.S. Department of Agriculture, *Report upon Forestry*, by Franklin B. Hough (Washington, D.C.: Government Printing Office, 1878-1882), vol. 3, p. 21; Charles S. Sargent, "The Forests of the White Mountains," *Garden and Forests* 1, 2 (February 29, 1888).
6. John E. Johnson, *Help for the Hills: The Boa Constrictor of the White Mountains, Or The Worst "Trust" in the World. An Account of the New Hampshire Land Company, A Corporation Chartered to*

Depopulate and Deforest a Section of the White Mountains (North Woodstock, N.H.: [n.p.] July 4, 1900), 11 pp.

7. *New England Homestead* (Springfield, Mass.), November 24, 1900.
8. *Ibid.*, January 19, 1901.
9. News Release (copy), SFPNHF, "Scrapbook."
10. SFPNHF, "Scrapbook."
11. *Boston (Mass.) Transcript*, January 21, 1903.
12. Philip W. Ayres, "Chronology of Forest Work," MSS, History Files, SFPNHF, p. 3.
13. SFPNHF, *Second Annual Report* (1903): 15-17.
14. The Department of Interior held administrative control over the nation's forest reserves until 1905 at which time Congress transferred their management to the Department of Agriculture.
15. *Congressional Record* 42: 6520, 1908; *Congressional Record* 42: 6564, 1908; *Congressional Record* 42: 6687-6705, 1908; *Congressional Record* 42: 6665, 1908. The bill died in the Senate Committee on Commerce to which it was referred. The report accompanying H.R. 21986 is U.S. Congress, House, *Cooperation of States for Conservation of Navigability of Navigable Rivers, etc.*, 60th Cong., 1st sess., 1908, H. Rept. 1700, 12 pp.
16. *Congressional Record* 44: 1324, 1909.
17. 36 Stat.961 as amended; 16 U.S.C. 480, 500, 513-517, 517a, 518, 519, 521, 552, 563.



("Profitable Work for Winter" in *Amer. Agric.*, December 1862)

Among America's prime assets are 1 1/3 billion acres of forest and related lands. How well these assets are used affects the well-being of every American. Unique in the diversity of its forests, America can boast 82 forest types—five times the number in Europe. Of the 82 forest types, more than 40 are important to the wood economy.

Nearly half of the area of the United States is made up of range lands where herbs and shrubby plants abound. Of 92 important range types, 64 have high value to the livestock industry. This variety not only offers great promise for prosperous and diversified industries and for widespread public benefits but also presents difficulties for land owners and managers in deciding how the land should be best put to use.

Ecological research on America's forest and range lands can benefit present and future generations by maintaining environmental quality, by providing recreational opportunities, and by strengthening the economic base for rural communities and their citizens, as well as for all Americans.

Today, as for the past six decades, the mission of Forest Service research is to develop the knowledge and technologies required to enhance the value to man—both economic and environmental—of America's forest and related lands. The research touches upon such areas as: more beautiful landscapes; cleaner healthier outdoor environments; more outdoor recreational opportunities; improved supplies of water, wood, and wildlife; a plenitude of high-quality livestock; a sound ecological balance, and ample supplies of forest and range products for low-cost housing. To help fulfill the urgent economic needs of our growing population, the current focus of Forest Service research lies in finding better ways to utilize our private and public inventory of open space. This entails discovering new ways of reducing costs and of stretching resources to meet ever-growing requirements; it demands a better understanding of ecosystems so that policy decisions and management practice can lead to improved productivity and quality of the environment.

The Forest Service, by cooperating with many private and public research workers in the United States and abroad, avoids duplication of effort and accelerates solutions to a wide range of theoretical and practical problems. The results of such efforts, of course, are of no value unless they are put into practice or are used to pursue more advanced studies. Thus, to complete the research mission, the Forest Service takes steps to insure that the new knowledge reaches federal, state, and local policymakers as well as the public and private land managers who need to apply the research findings.

Forest Service research employs a full spectrum of disciplines in the biological, physical, economic, and social sciences to solve complex problems concerning forest and related ecosystems and their interfaces with urban areas. The goal of this research is to learn how man for his well-being and enjoyment can best use and protect the plant, animal, soil, water, and esthetic resources of nonagricultural rural lands. In this quest, equal concern is shown for conservation of renewable resources—for productivity to meet the needs

of a growing nation—and for improvement of the environment.

A sample of current Forest Service research reflects its diversity. Currently such research includes studies to improve helicopters, balloons, and skyline logging systems to facilitate harvesting in areas of fragile and rough terrain. These aerial harvesting systems will reduce both the need for road construction and the environmental damage due to timber harvesting. For the first time, in other research studies, attractant-based natural control has been shown to be effective over a large area in reducing both the bark beetle populations and their damage and in nondisrupting the beetle's natural enemies. Also being studied are the culture and placement of forest vegetation to reduce noise and to ameliorate harsh rural and urban environments. Sewage effluent and sludge applications are being studied as a potential method of waste disposal that would use the waste to fertilize forest lands.

Forest Service research entails many separate studies each of which serves to clarify our understanding of the overall pattern of relations between organisms and their environment. Each factor in the environment—human, animal, vegetable, and inanimate object—affects the overall economic and ecological balance. Changes in one factor, to a greater or lesser degree, affect all the other factors.

Proper conservation of each forest and related types in the various life zones presents a unique set of problems whose solutions require multidisciplinary research. For each type, this involves studies of the character and interaction of the soils, water vegetation, animal population, and other environmental factors. Such research employs analysis as the key to understanding the ecological impact on the forest or range ecosystem when one or more factors are altered as a result of management practices, accident, fire, or hurricane. The results of this and related research are helpful in formulating guidelines for ecosystem management.

The manner in which any single tract of forest or range land is used affects the environmental and economic balance both locally and nationally. When a tract is used to the limit for a single purpose (such as timber production or grazing), the usual result is a short-term gain at the expense of the overall economy and environment. Through wise application of research results, however, each tract can serve many purposes. For example, research has shown that the use of certain timber harvesting and grazing techniques tends to increase rather than diminish the ability of a tract to provide recreation, wildlife, water, and other values.

Thus multiple use becomes a primary factor in land use management. Among Forest Service projects currently being studied, the following could be included: seeking new ways to eliminate soil erosion as a major source of water pollution; reducing the cost of protecting soil and vegetation; healing the blemishes left on the landscape by man; harvesting resources without leaving scars upon the land, and growing trees and shrubs that provide better shelter.

As Americans gain more leisure time and greater mobility they will turn more to the out-of-doors. Even as things stand at present, the dramatic increase in camping, backpacking, fishing, hiking, and other outdoor pursuits is overtaxing present facilities in many areas. To help meet the situation, Forest Service research is seeking ways to expand recreational facilities, to help make private recreation enterprises more profitable, and to reduce the investments required for recreation. In the same vein, researchers are looking at the effects of outdoor recreation on city dwellers who have never experienced the natural wonders that lie beyond their congested neighborhoods.

*This article is comprised of edited extracts taken from U.S. Department of Agriculture, Forest Service, *Forest Service Research: Solving Problems on Forest and Related Lands*, FS-307, Washington, D.C.: GPO, n.d., 34 pp., illus., table.

In terms of water quality, recent discoveries and research still in progress promise to show us how to increase yields of high-quality water as well as to improve sport and commercial fisheries. Application of the results of such research is helping to prevent erosion and siltation of water supplies and reservoirs on millions of acres of forest and related lands. In its current research, the Forest Service stepped up its efforts to find ways to improve the timing of the delivery of water to meet seasonal needs. Parallel studies are revealing techniques for using fertilizers and other chemicals to improve harvests without contributing to water pollution.

Despite the inroads of new competing materials, wood still remains a prime resource. Harvested wood in the United States is about equal to the tonnage of all metals, plastics, and portland cement combined. The trend towards use of wood substitutes, moreover, is arousing new concerns over the environmental damage wrought in producing the colossal amounts of energy that are expended in processing nonrenewable minerals. These new concerns over the environment and the forecast that annual needs for housing will double in the coming decade foretell greater demands for wood. Forest Service research, therefore, seeks new ways to use wood more efficiently but unless much of the research is successful, this nation will not be able to realize its housing goals. Other objectives of Forest Service research include increasing the yield of wood per acre, reducing the costs of growing, harvesting, transporting, and manufacturing wood products, and opening up sources of wood that are now economically inaccessible by developing new harvesting systems non-detrimental to the environment.

In those parts of rural America designated as low-income areas, special efforts are needed to raise their standard of living. Currently the Forest Service is conducting utilization studies and market research that is aimed at finding sound long-term uses for certain resources available in low-income areas. Some research focuses on helping rural residents increase their margin of profit by raising livestock and by inducing the proliferation of game and other wildlife. Other research aims at the development of designs, materials, and methods that will facilitate the construction of modern low-cost housing to replace dilapidated and outmoded dwellings. It is hoped that such research will help stem the exodus of citizens from rural to urban environments.

The Research Organization

The Forest Service, USDA has the largest forestry research organization in the world. Federal facilities, particularly those that have been developed in recent years, provide the scientists with the equipment and land areas needed to solve today's most challenging forestry problems.

Through cooperative ties in this country and abroad, the Forest Service draws upon the special talents and facilities of universities, states, private industry, and other federal agencies. This research capability, over a half century in the making, has created a rich fund of knowledge from which future innovations are derived. Much of the technology now used in the management of public and private forest and range lands can be attributed to discoveries made within the past 20 years. The Forest Service has divided their research into the following eight major program areas: 1) trees and timber management; 2) forest watershed management; 3) wildlife range and fish habitat; 4) forest recreation; 5) forest fire and atmospheric sciences; 6) forest insects and disease; 7) forest products and engineering, and 8) forest economics and marketing.

Nationally the comprehensive research programs are

administered in Washington, D.C., and are directed by the Deputy Chief of the Forest Service for Research. At the field level, the research organization is led by Directors of eight Regional Experiment Stations, the Forest Products Laboratory, the Institute of Tropical Forestry, and cooperating scientists. Area wide or special research programs are carried on through the eight regional experiment stations, the Forest Products Laboratory at Madison, Wisconsin, and at the Institute of Tropical Forestry, Rio Piedras, Puerto Rico. These research centers supervise more than 3,700 studies in support of 325 research projects at 80 locations in 42 states and Puerto Rico. Coverage extends from the Tropics to the Arctic, and from Hawaii and the territories in the Pacific to Puerto Rico in the Atlantic.

Cooperative research extends beyond the immediate environs of the Forest Service to include eminent scientists located at various universities, private research organizations, state, industry. On the international plane, foreign currencies are used under the Food for Peace Program (P.L. 480) to provide grants for research on forestry problems by outstanding foreign scientists in their home countries. Forest Service scientists share research findings programmed under the International Biological Program (IBP) of the United Nations Educational, Scientific, and Cultural Organization (UNESCO). Exchanges of scientific materials and research findings are regular features of Forest Service participation in the International Poplar Commission, Panel of Experts on Forest Gene Resources, and other technical commissions, committees, and work groups of the Food and Agriculture Organization of the United Nations (FAO). Organizations (IUFRO) provides similar cooperative working relationships and scientific exchanges on a worldwide basis. And bilateral scientific agreements with a number of nations permit exchange of scientists as well as scientific information. Outstanding among these is the United States-Japan Cooperative Program in Natural Resources (UJNR). The cooperative research effort thus extends the research capability of some 1,100 scientists and engineers and 2,200 technicians, clerks, and administrative personnel.

Forestry research remains a continuing endeavor. Each generation brings new demands and applies added pressures to the nation's resources. In the past, potential timber shortages plagued the country. Today the energy crisis is causing us to reevaluate our resource base. What the future may bring remains unseen. With a century of experience in research behind it, the Forest Service, USDA will work to meet the challenge and assume the leadership in forest land utilization and conservation.



("Leaf of Liquidambar" in
Amer. Agric., September 1863)

SEARCHING FOR FORESTRY INFORMATION BY COMPUTER:
SELECTIVE GLEANINGS

by

Harry Kemp*

The use of computers in forestry and wood products application is by now well established. Automated programs already exist for mensuration, climatological predictions, fire hazard estimations, fuel calculations, equipment inventory, processing equipment control, photographic enhancement and interpretation, lightning risk calculation, avalanche prediction, transportation modeling, remote sensing, tree ring data, and forest management.

Publishers of indexing and abstracting publications concerned with forestry and its related technologies have begun only recently—since the late 1960's—to put their output on magnetic tape and place it in an environment adaptable to computer manipulatable form. This was accomplished largely in order to support automated printing techniques.

As a by-product of this operation, the data base thus created is also available for computerized information storage and retrieval systems. Initially, the retrieval programs operated in batch environment; that is, they were not immediately accessible, they were accessible only at regular predetermined intervals. In this mode they have served the purpose of fulfilling either current awareness (mostly Selective Dissemination of Information—SDI) or retrospective searching demands.

In the past few years, these systems have become available online with immediate accessibility, usually by means of local terminals connected to a central but geographically remote computer through the intermediary of telephone circuitry. Typically, these online systems provide for both SDI and retrospective use although they also must allow for batch processing. For instance, they provide for SDI profile construction online with updates produced batch; or, they use a batch environment to create offline, sometimes called overnight, printouts.

Within the past two or three years the reliability of these newly developed systems and the communication regimes within which they operate have been stabilized to the extent that effective performance can be expected to be the rule and not the exception. With stabilization, two principal attributes of computerized systems have been clearly demonstrated. One involves the time function, or the fact that large quantities of literature citations can be searched, in some instances within seconds. The other concerns the capability of full-text searching, or the fact that subject matter can be defined to a greater or lesser degree at the discretion of the terminal operator or searcher. Computerized literature retrieval remains, however, in its infancy and, since serious drawbacks still remain in most computerized retrieval systems, it must be viewed as a type of system designed to supplement rather than replace traditional or manual searching. For example, most machine-readable files include searchable material dating back only five to seven years. This can be an important consideration when dealing with forestry literature.¹

At this time, most of the important forestry related data bases are accessible, either online or batch, through a number of different sources. A complete

inventory of these services has been prepared by Williams and others.² Although the brevity of this paper precludes detailing the intricacies involved in searching each of these systems, it is suggested that several relevant studies be consulted.³ The remainder of this article will be devoted, therefore, to mentioning some of the more important systems, and describing some of the custom files that are now available for searching by computer.

The most directly applicable files or data bases are those which concern the natural and physical sciences and technologies. A non-exclusive list includes the following: AGRICOLA, for AGRICultural OnLine Access, a product of the National Agricultural Library, Technical Information Systems;⁴ Science and Education Administration, USDA; BIOSIS, for biological abstracts; APTIC, for air pollution; COMPENDEX, for engineering; SSIE, a research-in-progress file maintained by the Smithsonian Scientific Information Exchange; NTIS, the U.S. government reports and technical papers file; Chemical Abstracts, a file containing CA Condensates, CA Patent Concordance, CASIE which contains index entries for documents abstracted in *Chemical Abstracts*, and Chemical Industry Notes; and CRIS, the research-in-progress file maintained by the U.S. Department of Agriculture; PAPERCHEM, a paper science and technology file; *Selected Water Resources Abstracts* (streamside vegetation, and runoff); SCORPIO, a general science and technology data file produced by the Library of Congress, and PREDICASTS, a business, statistics, marketing, import-export data base. Great Britain, through the Commonwealth Agricultural Bureaux, produces a multiple file data base of which the forestry and grazing sections are of immediate importance.

Other data bases may be considered secondary sources of exchange, since they are only tangentially related to forestry. An incomplete listing, for example, might include the following: ERIC, containing education courses in forestry and curriculum guides; NICEM, which refers to audiovisual aids and training films; LISA, an information handling, library science file, and AGRIS, International Information System for the Agricultural Sciences and Technology, which includes forestry information. More remote in their possible use for forestry items are such files as MRIS (the Maritime Research Information System), which contains such subjects as the loading of wood-product vessels. In fact, there are few data files that do not have some application in forestry.

In addition to the sources mentioned, a number of specialized files have been generated by interested participants within the forestry community. An inventory published in 1973 identifies the following six bibliographic files dealing with forestry or wood products: the Forest Management and Silviculture Literature file; Mistletoe Index; SOLAR, which is dedicated to the subject of white pine blister rust; Specialized Bibliographic Files, or assorted topics run on the program FAMULUS; Weather, the fire activity data bank, and the Worldwide Directory of Forest Tree Geneticists.⁴

The Technical Information Office, a Forest Service office located in Washington, D.C., is collaborating with a number of other organizations in the management of several additional bibliographic files that run online and/or batch at the Energy Research and Development Administration (ERDA) Computer Center, Oak Ridge, Tennessee. These files include INTREDIS, for tree diseases, and FIREBASE, for fire weather. Other customized data base collections are the Gypsy Moth, Spruce Budworm, and Range and Watershed Management data. The Technical Information Office is also in the process of developing a program known as CORR (Communications On Renewable Resources) which is designed to facilitate the transfer of technical and management information between scientists, technicians, and admin-

*Harry Kemp is a Technology Transfer Specialist, Pinchot Institute for Conservation Studies, Milford, Pennsylvania.

istrators. CORR also has the special capability of accepting contributions from its participants which creates, in effect, a computerized "invisible college." Some of the topics included in the individual CORR segments on an experimental basis are Recreation; Range Management; Wildlife Management; Water Quality; Area Planning; Land Use, Reclamation; Technology Transfer; and Endangered Species. The Technical Information Office is also coordinating with the U.S. Army Corps of Engineers in regard to the Interagency Sensitive Wildlife file, a data bank maintained by the Corps in Vicksburg, Mississippi.

In addition to the various online and batch systems are "one-off" products being produced using computer manipulatable raw data. These, again, may most properly be considered by-products of an application of the computerized publishing technique. For example, a listing of *Forestry and Forest Products* serial holdings has been produced using the STAR (Serial Title Automated Records) file. Two selective mini-bibliographies or "mini-bibs" have also been prepared using AGRICOLA, one on fire management and one on urban forestry. They have been reproduced and are being distributed free of charge by the Technical Information Systems. Another source of forestry data information is the Smithsonian Scientific Information Exchange (SSIE) which has 36 "Research Information Packages" available through the Exchange's Office of Publications. The monthly indices produced by Oryx Press, utilizing the AGRICOLA tape, and by the Food and Agriculture Organization (FAO) might also be considered "one-off" products. Ultimately, of course, the AGRIS system, with its important forestry moiety, will also become available for online searching.

Given the multiplicity of existing information sources, access to them must be arranged in an effective and convenient manner. Unfortunately, and for a variety of reasons, there is no place which offers "one-stop-shopping" insofar as utilization of these different forestry-related data bases is concerned. The three major commercial purveyors of automated bibliographic literature systems of interest to forestry in the United States are Lockheed Information Systems (DIALOG), Systems Data Corporation (ORBIT), and Bibliographic Retrieval Services. These services are usually provided through the intermediary of some formal information/library facility. Most of the large university libraries and the land grant universities are offering service based on the three commercial vendors' products. There are, however, a number of private profit-seeking businesses which act as middlemen, or brokers, and also provide these services.⁵

Within the Department of Agriculture, the Technical Information Systems, together with some Forest Service elements (e.g. PSW, PACFORNET, FPL, FSES, SE) are offering qualified users access to these files as well as to others not directly related to forestry. Qualified users generally bear no cost for such services neither through the regional Forest Service offices nor at the central processing facility.

In conclusion, several special interest files should be mentioned. FIREBASE, which has already been referred to, is designed as one of the few bibliographic systems which will be operated by the actual, end user. The Current Awareness Literature System (CALS) of the Technical Information Systems, Science and Education Administration, USDA, provides service (mostly SDI and retrospective searching) based on several of the major data bases such as BIOSIS, AGRICOLA, CAB, NTIS, CHEM ABS, as well as on some specialized files that operate on the FAMULUS system.

It has become apparent that the computer as an information retrieval and storage device is proving an important tool for the forest researcher, technician, and worker. This multiplicity of systems requires its

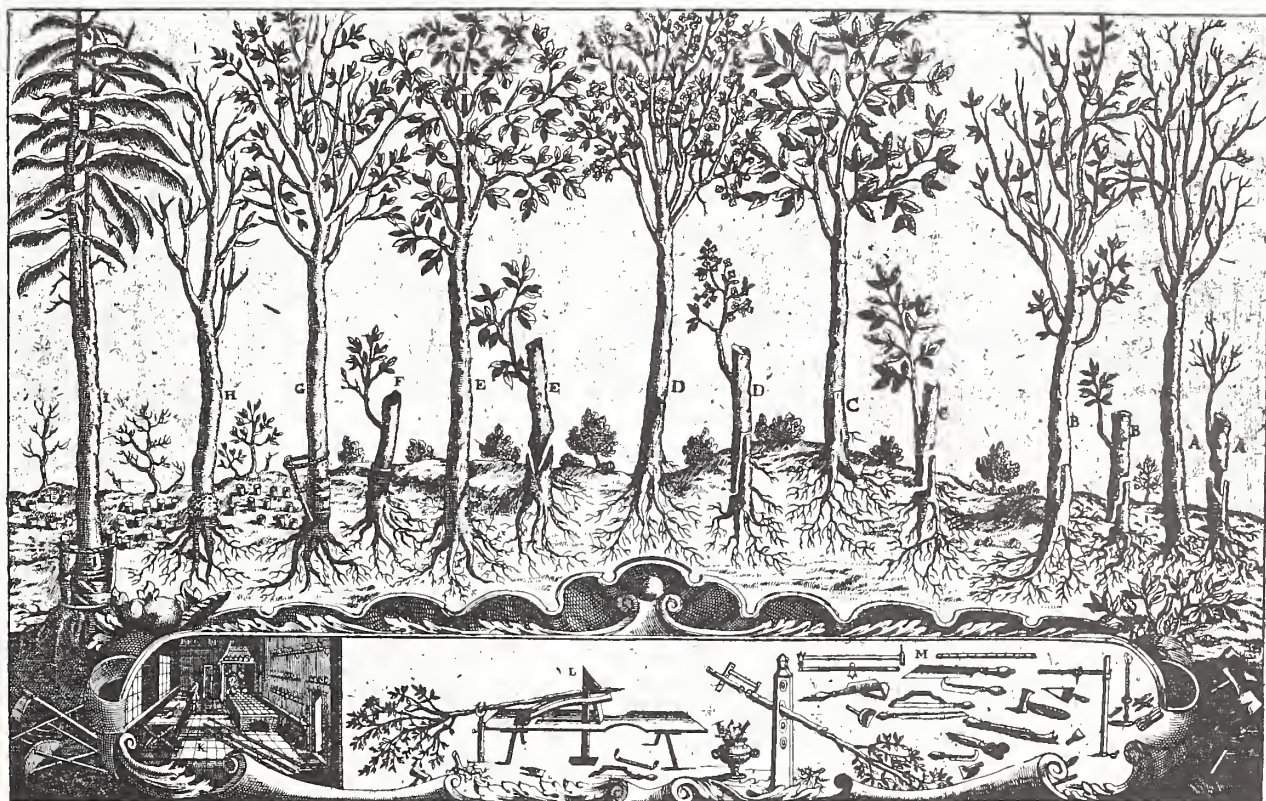
users—librarians, information specialists, subject experts, and the like—to share both the experience and the responsibility of effective exploitation for mutual benefit.

REFERENCES

1. This concept, referred to as obsolescence or "half-life" in information science studies, is discussed in detail in L. David Dwinell, "Advances in Information Systems and Services for the Forestry Community," *Journal of Forestry* 76 (February 1978): 80-83.
2. M. Williams and S. Rouse, eds., *Computer-Readable Bibliographic Data Bases: A Directory and Sourcebook* (Washington, D.C.: American Society for Information Science, 1976); *Information Market Place* (Ann Arbor, Mich.: R. R. Bowker, 1978); *On-Line Information Source Book* (London: Association of Special Libraries and Information Bureaux, in press).
3. David K. Oyler, "Indexes to Forestry Literature: A Bibliographic Appraisal," *Journal of Forestry* 75 (January 1977): 20-21; C. A. Elbourn, "Forestry Abstracts Goes 'On-Line,'" *Forestry* 50, 1 (1977): 75-78; Deanna Morrow (librarian, Georgia-Pacific Corp., Portland, Oregon), "Bibliographic Control in Forestry/Forest Products: A Comparison of the Scope and Depth of AGRICOLA and CAB/Forestry Abstracts and PAPERCHEM," paper presented at the Special Libraries Association Meeting, 69th Annual Conference, Kansas City, Mo., June 10-15, 1978.
4. Joseph F. Caponio and Marilyn C. Bracken, *Selected Food and Agriculture Data Bases in the USA* (Washington, D. C.: U.S. Department of Agriculture, 1973).
5. Information Industry Association, *Information Industry Membership Directory, 1978-1979* (Bethesda, Md.: IIA, 1978); *Information Alternatives, Directory of Fee-Based Information Services* (Woodstock, N.Y.: Information Alternatives, in preparation); Capital Systems Group, *Directory of On-Line Bibliographic Data Bases* (Rockville, Md.: CSG, 1978).



("The White Willow" in *Amer. Agric.*, January 1864)



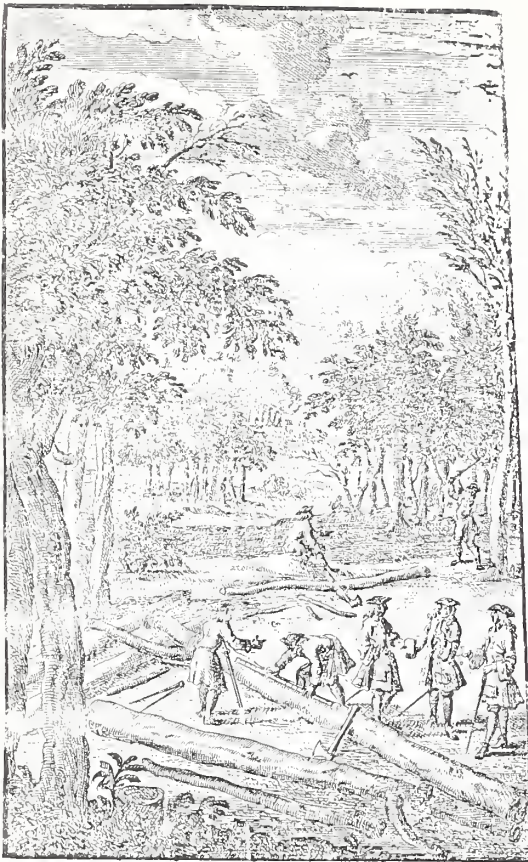
(Grafting of roots in gardens and forests to induce growth in G. A. Agricola's
... *Treatise of Husbandry and Gardening* ..., trans. by Richard Bradley, 1721)



(Great Ash of Leix)



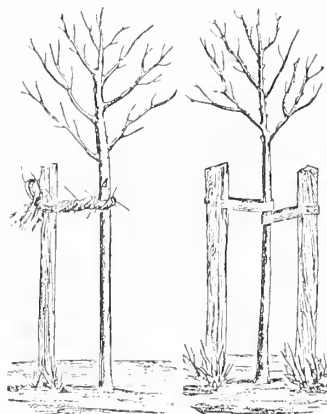
(Four corner illustrations from Samuel Hayes'
*A Practical Treatise on Planting; and the
Management of Woods and Coppices*, 1794)



(Moses Cook's *The Manner of Raising, Ordering, and Improving Forest-Trees ...*, 1724)



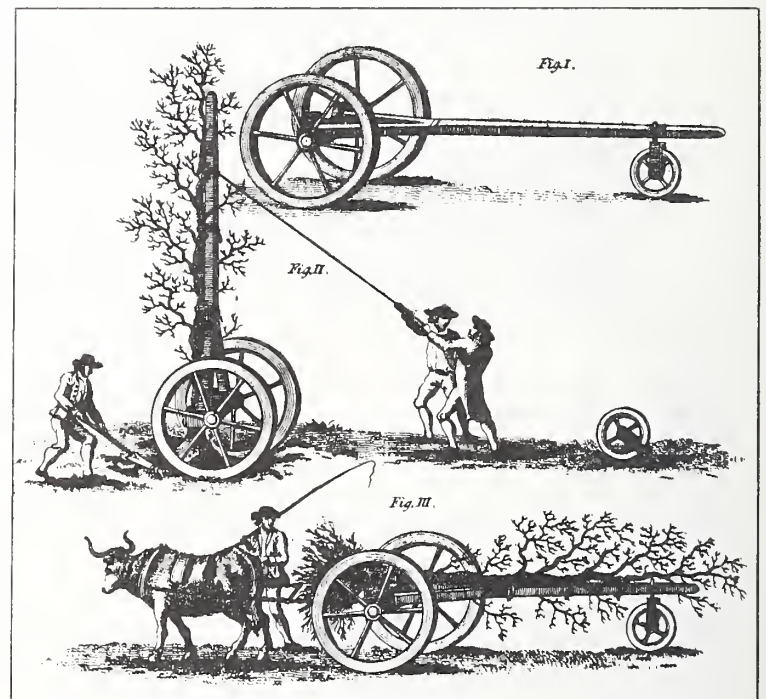
(The above illustrations from *Encyclopedie Methodique. Art Aratoire*, 1802)



("Staking Trees" in *Amer. Agric.*, April 1866)



("Felling Trees" in *Amer. Agric.*, August 1865)



(Machine for transporting trees introduced by Mr. Robinson, a Scottish engineer in Samuel Hayes' *A Practical Treatise on Planting; and the Management of Woods and Coppices*, 1794)

NEW



ACQUISITIONS

With this issue *Associates NAL Today* introduces as a regular feature a selective listing of recent NAL acquisitions, including books, periodicals, and series. The NAL call number is provided with the citation (if available).

Persons having questions or suggestions concerning this listing should contact Beth Whiting, Selection Section, Room 112, NAL Building, Beltsville, MD 20705.

Agribusiness Manual: Background Papers on Corporate Responsibility and Hunger Issues. New York: Interfaith Center on Corporate Responsibility, 1978.

American Society of Civil Engineers. *Wood Structures: A Design Guide and Commentary*. New York: American Society of Civil Engineers, 1975.

Animal Migration, Navigation, and Homing. Edited by K. Schmidt-Keenig and W. T. Keeten. Berlin: Springer-Verlag, 1978. [QL782.5.A54]

Baker, Reginald R. *Evolutionary Ecology of Animal Migration*. New York: Holmes and Meier Publishers, 1978.

Biodeterioration Investigation Techniques. Edited by A. Harry Walters. London: Applied Science, 1977. [TA418.74.B49]

Brookes, John. *The Small Garden*. New York: Macmillan, 1977. [SB473.B724]

Catcheside, D. G. *Genetics of Recombination*. London: Arnold, 1977. [QH443.C37]

Cell Cycle Regulation. Edited by James R. Jeter, Jr., et al. New York: Academic Press, 1978. [QH604.C44]

Cohen, S. I. *Agrarian Structures and Agrarian Reform*. Leiden: Martinus Nijhoff, 1978.

Cowan, Samuel T. *Dictionary of Microbial Taxonomy*. Cambridge: Cambridge University Press, 1978.

Current Chemotherapy: Proceedings of the 10th International Congress of Chemotherapy, Zurich, Switzerland, 1977. Edited by W. Siegenthaler and R. Lhuthy. Washington, D.C.: American Society for Microbiology, 1978. 2 volumes. [RM260.2.157 1977]

Design Council's Catalogue of Farm Buildings. London: Design Council, 1977.

Development of Behavior: Comparative and Evolutionary Aspects. Edited by Gordon M. Burghardt and M. Bekoff. New York: Garland STPM Press, 1978. [QL750.D45]

Eichler, Victor B. *Atlas of Comparative Embryology*. St. Louis: C. V. Mosby, 1978. [QL957.E45]

Energy: A Guide to Organizations and Information Resources in the United States. 2nd ed. (Who's Doing What Series: 1) Claremont: Public Affairs Clearinghouse, 1977.

Flowering Plants of the World. Consulting editor: V. H. Heywood. Oxford: Oxford University Press, 1978.

Gelb, Barbara L. *Dictionary of Food and What's in It for You*. New York: Paddington Press, 1978. [TX551.G28]

Graf, Alfred B. *Tropica: Color Cyclopedia of Exotic Plants and Trees from the Tropics and Subtropics*. East Rutherford, New Jersey: Roehrs Co., 1978. [SB407.G72 1978]

Hanan, Joe J. *Greenhouse Management*. Berlin: Springer-Verlag, 1978. (Advanced Series in Agricultural Sciences, volume 5) [S405.A34 volume 5]

How Ready Are Ready-to-Serve Foods? Edited by K. Paulus. Basel: S. Karger, 1978.

Insect Flight Muscle. Edited by Richard T. Tregear. Amsterdam: North Holland, 1977. [QL496.7.159]

International Congress of Game Biologists, 13th, Atlanta, Georgia, 1977, Proceedings. Edited by Tony J. Peterle. Washington, D.C.: Wildlife Society, 1978.

Kefeli, Valentin I. *Natural Plant Growth Inhibitors and Phytohormones*. The Hague: W. Junk, 1978. [QK731.K39]

Kinsella, Susan. *Food on Campus: A Recipe for Action*. Emmaus, Pennsylvania: Rodale Press, 1978. [TX946.K56]

Longo, Rose Mary J. *A Study on Information Systems in Agricultural Sciences: Data Bases and Selective Dissemination of Information. Master's Thesis*. Halifax, Nova Scotia: Dalhousie University, 1978.

Loomis, Ted A. *Essentials of Toxicology*. Philadelphia: Lea and Febiger, 1978. [RA1211.L6 1978]

Low-Calorie and Special Dietary Foods. Edited by Basant K. Dwivedi. Cleveland: CRC Press, 1977. [RM258.L68]

Marei, Sayed. *World Food Crisis*. London: Longman, 1978. [HD9000.5.M338 1978]

- Marine Plant Biomass of the Pacific Northwest Coast.* Corvallis: Oregon State University Press, 1977. [SH390.5.U6M37]
- Medicinal Feed Additives for Livestock.* Edited by Donald W. Jolly and J. M. Somerville. London: Association of Veterinarians in Industry, 1975. (Obtained from: The Librarian, Royal College of Veterinary Surgeons, Wellcome Library, 32 Belgrave Square, London, England.) [SF98.M4M4]
- Medved, Eva. *Food in Theory and Practice.* Fullerton, California: Plycon Press, 1978. [TX354.M43]
- Multilingual Compendium of Plant Diseases: Viruses and Nematodes.* St. Paul: American Phytopathological Society, 1976. [SB731.M52]
- Mushroom Poisoning.* West Palm Beach: CRC Press, 1978. [RA1242.M9M87]
- Okabe, Hideo. *Photochemistry of Small Molecules.* New York: Wiley, 1978. [QD708.2.O33]
- Onchocerciasis in Zaire: A New Approach to the Problem of River Blindness.* Edited by F. C. Rodger. Oxford: Pergamon Press, 1977. [RA644.053234 1977]
- O'Rourke, Andrew D. *Changing Dimensions of U.S. Agricultural Policy.* Englewood Cliffs, New Jersey: Prentice-Hall, 1978. [HD1761.07]
- Paton, T. R. *Formation of Soil Material.* London: George Allen, 1978.
- Physiological Adaptation to the Environment.* New York: Intext Educational Publishers, 1975. [QP82.P46 1975]
- Pirie, Norman W. *Leaf Protein and Other Aspects of Fodder Fractionation.* Cambridge: Cambridge University Press, 1978.
- Plant and Animal Products in the U.S. Food System.* Washington, D.C.: National Academy of Sciences, 1978. [TX360.U6P53]
- Plum Island Animal Disease Center. *Reference Manual. Foreign Animal Disease Courses.* 3rd ed. Beltsville, Maryland: USDA Press, 1978.
- Potato Crop: The Scientific Basis for Improvement.* Edited by P. M. Harris. London: Chapman and Hall, 1978.
- Raymond, Frank. *Forage Conservation and Feeding.* 3rd ed. Ipswich: Farming Press, 1978.
- Robinson, Corinne H. *Fundamentals of Normal Nutrition.* 3rd ed. New York: Macmillan, 1978. [TX354.R6 1978]
- Rochow, Theodore G. *An Introduction to Microscopy by Means of Light, Electrons, X-rays, or Ultrasound.* New York: Plenum, 1978. [QH205.2.R63]
- Sainsbury, David W. B. *Pig Housing.* Ipswich: Farming Press, 1978.
- Salisbury, Frank B. and C. W. Ross. *Plant Physiology.* 2nd ed. Belmont, California, 1978. [QK711.S22 1978]
- Scientific Quotations: The Harvest of a Quiet Eye.* Edited by Maurice Ebison. New York: Crane, Russak, 1977. [Q173.S35]
- Sensory Systems of Primates.* New York: Plenum, 1978. [QL737.P9P6727]
- Southern Rural Development Center. *Functional Network on Industrialization of Rural Areas. Industrialization of Rural Areas. Industrialization of Rural Areas: A Bibliography.* Mississippi State, Mississippi: Southern Rural Development Center, 1977. (SRDC Bibliography Series, no. 1)
- TAPPI Pulping Conferences, 1978.* Atlanta, Georgia: Technical Association of the Pulp and Paper Industry, 1978.
- Wareing, Philip F. *Control of Growth and Differentiation in Plants.* 2nd ed. Oxford: Pergamon, 1978.
- Williamson, Grahame. *An Introduction to Animal Husbandry in the Tropics.* 3rd ed. London: Longman, 1977.
- Woodbine, M. *Antibiotics and Antibiosis in Agriculture: With Special References to Synergism.* (Easter School in Agricultural Science. 25th, University of Nottingham, 1976) London: Butterworth, 1978. [SF918.A5E2 1976]
- World Food Crisis: An International Directory of Organizations and Information Resources.* Edited by Thaddeus C. Trzyna. Claremont, California: Public Affairs Clearinghouse, 1977. (Who's Doing What Series, no. 4) [HD9000.3.W67]
- Wortman, Sterling and R. W. Cummings, Jr. *To Feed This World: The Challenge and the Strategy.* Baltimore: Johns Hopkins University Press, 1978. [HD9000.6 .W64]

New Series

- Lithium and Animal Behavior.* volume 1- 1977-
Montreal: Eden Press. (Annual Research Reviews)
- Topics in Hormone Chemistry.* Chichester, England: E. Horwood Ltd., volume 1- 1978- Editor: W. R. Butt. [QP571.T66]
- Topics in Mycobiology.* Guelph: Canadian Biological Publications, Ltd., volume 1- 1977-
- Animal Reproduction Science.* (quarterly) Amsterdam: Elsevier Scientific Publishing, 1978- volume 1-



(Amer. Agric., December 1865)



Persons interested in reviewing books, having books reviewed, or simply having questions about the reviews should address correspondence to Tom Fulton, Book Review Editor, Associates NAL Today, Room 150, GHI Building, 500 12th Street, S.W., Washington, D.C. 20250.

Clawson, Marion. *Man, Land and the Forest Environment*. (Seattle: University of Washington Press, 1977, 72 pp., \$6.95.)

An economist and prolific writer long associated with natural resource problems, Marion Clawson provides a summary nationwide history of land use planning and control, based on his many years of observations, and after examining major types of forests and conflicting demands, particularly in the Pacific Northwest, offers suggestions for analyzing basic policy issues, including public control over private land use, and for improving management and production of the nation's forests, public and private. Throughout, he speaks of "social controls" rather than "governmental controls" since he considers the term more inclusive and basic.

This small book of 69 pages consists of three public talks he gave two years ago at the University of Washington in the George S. Long lecture and publication series. The parts are entitled, "Land Use Planning and Land Use Control," "Forests for Whom and for What?" and "National Forests, Now and for the Future."

Clawson's essay on land use reveals the complexities and inevitable conflicts of controls, shows that some control over private uses is inevitable in the general interest, and points out that thorough professional analyses, offering of alternatives, and then open public participation in decisions can make the process more fair and equitable to all concerned. He concedes that much land use control, especially local, has been discriminatory and unsatisfactory in the past, but says that it can be beneficial to the great majority if well conceived and presented. He notes the trend toward land use planning by larger geographic units, although effective national legislation will probably be slow in coming.

His second essay reviews the great variety, importance, productivity and underutilization of forest lands, also their great powers of recuperation after misuse, continuous renewability, and their various benefits: wood production, outdoor recreation including wilderness, watershed protection, wildlife, and "general forest environment." (He neglects to mention use of forest rangelands for domestic livestock.) Clawson urges more intensive forest management for all public uses, with a careful analysis of tradeoffs when uses are incompatible. He discusses policy issues for private and public forest lands, notes the inevitability of "pragmatic compromises," and offers five basic

yardsticks to analyze and arrive at a policy, conceding that their use makes policy decisions "extremely difficult." They are "(1) physical and biological feasibility and consequences; (2) economic efficiency; (3) economic equity, or who gains and who pays; (4) cultural acceptability; and (5) administrative or operational practicality." He concedes that although benefit-cost calculations are imperfect, the technique "is the most powerful yet devised for economically sound resource management," and is "fully usable for forest outputs not marketed for cash." He notes that "freeloaders" who enjoy and use forest values but pay little or nothing for them make "profitable forest management . . . enormously more difficult."

In his last essay, concerning the National Forests, Clawson contends with regret that they constitute a tremendous national asset that is poorly managed and unproductive, despite great increases in output in the past 45 years. He acknowledges that they have on the average less productive capacity for timber than forest industry lands, and that much attention must be given to other public demands, but still contends that we could have "more of everything," including wilderness. He urges "intensive forestry for wood production on the lands most productive for this purpose," and doing the same for the other uses. From an analysis of data from various sources he says, "One can only conclude that the national forests have been managed with virtually no regard for costs and returns." He strongly urges new procedures and analyses of national forest operations, and a massive infusion of new kinds of professionals at all levels. In some respects these recommendations coincide with those of another recent analysis of the Forest Service, Glen O. Robinson's *The Forest Service: A Study in Public Land Management*, sponsored by Resources for the Future and published by Johns Hopkins University Press, Baltimore, Md., in 1975.

Clawson is formerly director of land and water programs for, and is now a consultant to Resources for the Future, Washington, D.C., a nonprofit private research and education institution financed by the Ford Foundation, and which is now considering affiliation with the Brookings Institution. From 1971 to 1973 he was a member of the President's Advisory Panel on Timber and the Environment.

Reviewed by Frank Harmon, United States Forest Service, USDA.

Cochrane, Willard W. and Mary E. Ryan. *American Farm Policy, 1948-1973*. (Minneapolis: University of Minnesota Press, 1976, 431 pp., \$18.50.)

This is a useful work from several perspectives. What the authors regard as "the core" of their study is largely a reference book, organized into extensive tables and charts, the scope and value of which can be suggested only by describing the coverage: a compilation of laws affecting "(1) the demand and supply of farm products, (2) commodity prices, and (3) the incomes of farmers in the post-World War II period" (pp. 131-174); a review of program operations detailing "the number of farmers directly involved, the amount of land affected, the volume of commodities covered, the level of price supports and government subsidies paid" (pp. 175-356); and a discussion of the consequences of the programs of price and income support in terms of (1) farm prices and incomes, (2) distribution of producer incomes and wealth, (3) resource allocation, efficiency, and output, (4) foreign trade, and (5) consumer welfare (pp. 359-382). Though this organizational pattern often leads to an unfortunate degree of repetition, the coverage provides a massive amount of valuable material. The program data come directly from the voluminous publications of the USDA, and for locating and making readily available this material, from the ephemeral mimeographed releases in particular, we are indebted to the authors.

While much of the work is thus of primary interest to specialists in agricultural economics and government policymakers, non-specialists will benefit from the authors' clear discussions of the agro-economic setting within which government programs developed and their conclusions about the advantages and shortcomings of the government's farm policy since World War II. Cochrane and Ryan find that at the root of the farm problem, and ultimately of farm policy, was chronic excess capacity within the agricultural industry. This problem developed as the technological advances of the period (new machinery, fertilizers, and plant varieties) more than offset the outflow of such conventional resources as labor and land and maintained a chronic surplus.

The authors concede that if one believes that the government programs of price and income support should have corrected the excess production capacity problem of commercial agriculture then the programs obviously failed. But the authors insist that the elimination of the problem would have entailed social costs that would have been politically unacceptable. From their perspective, then, they conclude that the farm policies were successful in containing the excess capacity problem and enabling the agricultural industry to grow and restructure itself in an orderly fashion. Thus although the government's policy did not resolve the underlying problem (to say nothing of ignoring the subsistence farmer and farm laborer and facilitating the elimination of smaller farmers), the authors find that the social gains for both commercial producers and consumers outweighed the costs. That conclusion, they readily admit, is a function of their own personal value system, but it also reflects the fact that their implicit alternative was the free market system. In this context it is appropriate to note that Cochrane served as farm adviser to John F. Kennedy and as both critic and planner of the farm programs here discussed. Understanding this, we gain from this book one final perspective for judging American farm policy since World War II.

Reviewed by Peter H. Argersinger, University of Maryland, Baltimore County.

Davis, Richard C., compiler. *North American Forest History: A Guide to Archives and Manuscripts in the United States and Canada*. (Santa Barbara, Calif.:

American Bibliographical Center-Clio Press for the Forest History Society, 1977, 376 pp., \$63.75.)

This guide describes 3,830 groups of manuscripts, oral history transcripts, and archival records held by 358 repositories in the United States and Canada, relating to the history of the lumber and forest products industries, forestry, conservation politics, national and state parks movements, wilderness preservation, and associated topics. It is the companion volume to Ronald J. Fahl's *North American Forest and Conservation History: A Bibliography* (1977); it largely supplants Clodaugh M. Neiderheiser's *Forest History Sources of the United States and Canada* (1956).

Compiled mainly from in-house finding aids and information collected through correspondence with the cooperating depositories, the guide makes up for the unevenness of its sources by skillful identification and description of the relevant material found therein. The guide's entries are presented by state and thereunder alphabetically by city and by depository in each city. A similar pattern serves for depositories in the Canadian provinces.

A major strength of the guide is the 126-page double-column index, the headings of which include all proper names mentioned in the text. Many subheadings are also employed: for example, topical headings are subdivided into geographic and chronological groups. Cross references are provided.

The guide brings under reasonable control an immense amount of primary material bearing on forest history. Richard C. Davis and the Forest History Society are to be commended for producing this worthy work; the National Endowment for the Humanities, for making it possible.

Reviewed by W. N. Davis, Jr., California State Archives, reprinted from *Agricultural History*.

Harlan, Jack R. *Crops and Man*. (Foundations for Modern Crop Science Series; Madison, Wis.: Crop Science Society of America, 1975, 295 pp., \$11.25.)

Crops support life on earth. They are manifestations of human effort, artifacts of ancient and modern cultures, and clues to past, present, and future foods. Man has molded crops through time and crop successes or failures have influenced empires to flourish or decay. Crops and man are mutually dependent. Domesticated plants cannot survive without human assistance, and few people could survive without domesticated plants. This dependency was not a cataclysmic event, it was a gradual process evolving through the last ten millennia. For over two million years people lived as hunters and gatherers. There is evidence that the diet of hunters and gatherers was superior to that of cultivators, famine rare, general health much better, and hunters and gatherers had a lower incidence of chronic disease. Population pressures in various parts of the earth forced an evolution in agricultural activities and provided incentive for plant domestication.

World food problems are created by human beings and their institutions rather than by natural hazards, technological innovations, or depleted natural resources. Mass starvation and famine are by-products of sedentary agriculture; in the words of the author, "farmers die of starvation, but famine is not recorded among gatherers except when there has been a drastic disturbance by outside agents" (p. 30). Hunting and gathering economies differ from agricultural ones in the size of human population which can be supported and in the effort expended. Farming requires more work, but feeds more people. Existing diverse forms

of agriculture on the present land base are producing ever increasing food crops and world food production could be expanded. Agricultural technology has reached a high level of development and the food-producing, people-supporting capacity of the earth today or tomorrow is not known.

Although studies in the origin and evolution of cultivated plants were made in the past, contemporary food problems, obliteration of gene centers, and disappearing focal points of plant diversity have stimulated research. Alphonse de Candolle, N. I. Vavilov, Carl O. Sauer, and now Jack R. Harlan have elaborated theories on crop origins and dispersals. De Candolle, one of the foremost botanists of the nineteenth century, was interested in the geography of plants. He studied regions of cultivated plant origin and distribution of wild relatives. N. I. Vavilov, a Russian geneticist and agronomist, researched plant origins, genetic diversity, and distributions. He stated, in 1926, that a center of crop origin could be reliably determined by analyzing patterns of crop variation. The region of greatest genetic diversity was the region of origin. Vavilov proposed eight centers of plant domestication. Carl O. Sauer, whose book entitled *Agricultural Origins and Dispersals* has become a modern classic, believed vegetative propagation preceded seed agriculture. He proposed Southeast Asia as the oldest hearth of agriculture.

In 1971, Jack R. Harlan identified three independent systems, each system with a center and a noncenter. Harlan's centers and noncenters of agricultural origins are (p. 55): A1—Near East center, A2—African noncenter, B1—North Chinese center, B2—Southeast Asian and South Pacific noncenter; C1—Mesoamerican center, C2—South American noncenter. In *Crops and Man*, he observed that "Every model proposed so far for agricultural origins or plant domestication has generated evidence against it" (p. 57). He now advocates a no-model model, recognizing that humans are varied, motivations are complex, and evolutionary processes are difficult to trace for want of information.

Harlan was selected by the Teaching Improvement Committee of the Crop Science Society of America and the American Society of Agronomy to write a summary of what is known about crop origins. *Crops and Man* was written for upper level undergraduates, especially those studying applied biology, agronomy, archaeology, anthropology, and geography. He has succeeded in summarizing what is known about crop origins and he has contributed a timely edition that substantially enlarges the field. Harlan combines biological and archaeological evidence to elucidate crop plant history. He has written a comprehensive account of the social and biological changes involved in the evolutionary progression from hunting and gathering to a full agricultural economy and beyond.

In order to establish a baseline from which to visualize the domestication of plants and the emergence of agriculture, Harlan employed two approaches in this book. First (Chapter 1), he reviewed ethnographic studies of nonagricultural societies and then he studied surviving nonagricultural societies. Second, he attempted to interpret preagricultural life from archaeological evidence. After establishing a prologue, he summarized views of agricultural origin (Chapters 2 and 3), and wrote (p. 59), "we are still far from determining either the exact regions of agricultural origins or the motivations that brought about such a profound change in human adaptation." Because of the importance of weeds and their roles in plant domestication, weeds were analyzed (Chapter 4), as well as problems in classifying cultivated plants (Chapter 5). Noting that the dynamics of plant domestication have resulted in great morphological changes, he stated that parts of the plant that show the greatest morpho-

logical alteration are the parts most valued by man (Chapter 6). Harlan, agreeing that space, time, and variation of crop plants can be analyzed from a geographic point of view, postulated (Chapter 7) that the current geography of crop patterns reflects, in part, the origin and evolution of cultivated plants. Finally, he regionalized centers of agricultural origins (Chapters 8, 9, 10, 11, and 12), dispersals of selected crops (Chapter 13), and concluded the book with an epilogue, "The Computer Age" (Chapter 14).

Harlan stimulates and intrigues, presents new or un-realized aspects of the topic, and offers interpretations that are scientifically sound but debatable. Most interesting is his contention that mixed genotypes of landraces had built-in safeguards against epidemics that could lead to total crop failure, and adapted or modified landrace populations with uniform genetic materials are invitations to disaster. To him, uniform genetic materials present potential hazards that are frightening to contemplate, for the food crops of man rest on a forever narrowing genetic base.

Unfortunately, most of mankind is dependent upon a handful of species, and the trend is for more people to be nourished by fewer food plant species. . . . Genetic resource management should become more and more important as the genetic base of our current food crops diminishes.

It is imperative that plant explorers and plant collectors be encouraged to expand efforts in assembling essential raw materials, i.e., germplasm. Plant breeders should be directed to carefully maintain their present collections and enlarge their programs. Existing gene banks established for long-term storage of specific landraces should improve, upgrade, and systematically fill in collection gaps. . . . Future generations dependent upon plants for sustenance will be placed in an untenable situation if a good sample of crop germplasm is not assembled for their utilization. Food crops supported life on earth in the past and must do so in the future; an industrial solution to feeding billions is not feasible. Old crops were manifestations of old culture; new crops and new foods must evolve from the old and be bred to serve the alimentary needs of those who dwell in the future.

Reviewed by William A. Dando, Chairman, Department of Geography, University of North Dakota, Grand Forks, North Dakota.

Martin, Lee R., ed. *A Survey of Agricultural Economics Literature, Volume 1, Traditional Fields of Agricultural Economics, 1940's to 1970's*. (Minneapolis: University of Minnesota Press for the American Agricultural Economics Association, 1977, v, 540 pp., \$25.00.)

As a general economist unfamiliar with the literature of agricultural economics, I agreed to review this lengthy volume because I considered it to be a unique opportunity to fill an important void. Filling this void would be a significant accomplishment because many of the empirical techniques that have become part of the mainstream of general economics have originated in agricultural economics and many of the more interesting applications of general economic theory are to be found in agricultural economics. Working through this volume did help me to fill the void. However, at times the going was slow. In this volume, the literature is subdivided and covered as follows: farm management and production economics by Harold R. Jensen, productive efficiency by Ben G. French, policy for commercial agriculture by G. E. Brandow, postwar policies relating to trade in agricultural products by D. Gale Johnson, agricultural price analysis and outlook by William G. Tomek and Kenneth L. Robinson, agri-

cultural finance and capital markets by John R. Brake and Emanuel Melichar, and technical change in agriculture by Willis Peterson and Yujiro Hayami. Each chapter includes a generous list of references.

The styles of the individual authors vary and my feelings toward each chapter were colored both by my reactions to their style and by my personal interest in discovering insights applicable to determining the impact of environmental constraints on agricultural producers and consumers. The chapters were readable for the most part, but I would not recommend reading the book straight through.

Among my favorite chapters was the one on agricultural price analysis and outlook. Perhaps this was the easiest section to cover succinctly because rigorous empirical work and mathematical models constitute a major portion of the work reported. However, the authors' generous use of specific examples and concise descriptions go a long way toward providing the reader with a feeling for the techniques used as well as an appreciation of the scope of the field. The only real weakness of the entire chapter was in the discussion of spectral analysis. Given the increasing importance of this technique, the two paragraphs allocated seem insufficient. Also, an example would have been particularly helpful here.

The lead chapter, farm management and production economics, offers some interesting insights into the "farm management identity crises," that is, the question of whether farm management should focus narrowly on production rather than on the broader disciplines (behavioral, social biological, social and physical sciences). However, I felt that the discussion of the regional farm management research activities could have been condensed and that some other sections were slow paced. In general, the analysis of productive efficiency was most concise. The section on specification and measurement problems—specifically the discussion of the economic-engineering technique—would have been well served by the use of an example. The presentation of the views of contemporary economists from Schultz to Tweeten was the most interesting part of the policy chapter. The section in this chapter on farmer bargaining power was timely as the members of the American Agricultural Movement were making their presence felt in Washington while I was reading it. However, I feel that the section on farm policy analysis could have been more succinctly presented with the use of diagrams.

Moving along to the trade chapter, I feel that it would have been enhanced by some statistics on agricultural exports and some discussion of agricultural trade with Japan since it is of current importance, given its trade surplus with the U.S. I could not really get interested in the chapter on agricultural finance and capital markets, but I thought the suggestions for future research—especially the authors' emphasis on the need for basic data on the loss of capital from the agricultural sector—were particularly well thought out. The technical change chapter was clearly written. I derived the most insight from its discussion of embodied versus disembodied technical change and particularly from the highlighting of the point that if embodied technical change is important, the rate of growth depends on the rate of investment.

In summary, I would recommend that this survey be purchased by libraries and reading rooms where economists of varied backgrounds are likely to congregate. I am not sure how interesting this book would be to other social scientists and some of the parts of the chapters make for slow reading at times, but I do think that the authors achieved their objective of surveying the high points of the agricultural economists' literature during the last thirty years and that they deserve to be complimented on this achievement. I am looking forward to reading Volume Two.

Reviewed by Norm Starler, Economics, Statistics, and Cooperatives Service, USDA.

Mighell, Ronald L., ed. *Looking Forward: Research Issues Facing Agriculture and Rural America*. (Washington, D.C.: Economic Research Service, United States Department of Agriculture, 1977, 444 pp., Free.)

Looking Forward is a collection of papers prepared to give guidance in future research in the Economic Research Service (now a part of the Economics, Statistics and Cooperatives Service). Three main issues of the papers are (1) relevance of the ERS research program, (2) implications for change in the research program to better respond to new issues, and (3) ways to improve the information flow from analyst to user.

While research in ERS has unity through economic theory and principles, the subject matter is diverse. Since ERS covers a broad spectrum of subjects, this book also covers a variety of subjects. The areas discussed in these papers include food and fiber needs; production potentials; food prices and consumer interests; transportation; energy; foreign trade and development; structure control and use of resources; farm capital; rural health; rural development; pollution; quality of life; economic opportunity; natural resources; and the role of ERS with its clients and beneficiaries.

Two themes consistent throughout the papers were a need for more "looking to the future" and more "policy oriented research." Dissenting opinions were expressed, but these two ideas seemed to predominate.

Research issues were felt to go beyond production and include more than economics. A greater need to include political, social and other aspects of problems was noted in several papers. Because measurements of non-economic variables often are difficult, some of the authors noted a tendency to evade questions which require these variables for a satisfactory answer.

As more noneconomic variables are included and nonproduction interests (such as consumers) are included in ERS research, conflicting goals make testing hypotheses much more difficult. Several authors stated this conflict should not deter researchers from attacking such problems. They also expressed a feeling that the agricultural establishment no longer is the sole determinant of what issues will receive attention. Consumers, environmentalists, and other interest groups often have a greater influence on what issues are relevant than the agricultural sector. Better communication with these groups is needed to anticipate future problems and educate them to agricultural problems.

A greater need to consider the impact of world conditions on U.S. agriculture was noted. Export markets consume a significant portion of U.S. production, especially grains. As this proportion increases, policies and economic conditions become much more important to the U.S. agricultural sector.

One of the important functions of ERS is to monitor the economic status of the agricultural sector, but some authors felt too much emphasis was placed on this aspect of the research and not enough on interpretation of the results. As one reviewer states, "I suspect that their conceptualization of the problem is a result of the tendency within the agency to be a compiler of facts, rather than a wellspring for ideas."

This collection of papers provides a good background for research guidance, both in ERS and outside. Not only do the papers provide many thought provoking ideas, but many of the discussants add depth and breadth to the original concepts.

Reviewed by Allen Smith, Economics, Statistics, and Cooperatives Service, USDA.

Read, Hadley. *Morning Chores and Other Times Remembered*. (Urbana, Ill.: University of Illinois Press, 1977, 189 pp., \$8.95.)

This is a clever book of poetry about growing up in a rural setting in Iowa in the 1920's. The poems are divided into five sections. The first section is a series of short poems in which Hadley Read recounts fondly each part of the house and farm. The other sections of the book are divided into the four seasons: spring, summer, fall, and winter. All parts of farm life are in the book, from affectionate memories of each room of the family home to the not so fondly remembered episodes of digging for potatoes in muddy fields. The collection of poetry is nostalgic in nature, perhaps romanticizing events and emotions colored by time and distance.

As a personal chronology Hadley Read turns the clock back for us all and paints with words a vivid picture of a moment in American life that all too many of us will never again share. Disconcerting statistics indicate that currently fewer than four percent of the American population lives on farms. There is something sad in a statistic like that. Fewer and fewer of us will remember, as Hadley Read does, walking several miles along country roads to a one-room school house. Or the memory of rising before dawn to do the morning chores and afterwards eating a hearty country-style breakfast. Above all else, *Morning Chores* shares the sense of close family ties that people who grew up in a rural setting tend to remember so vividly. In today's highly industrialized, technological America it is significant, I think, to remind ourselves that the experiences related in *Morning Chores* form an integral part of the present day American psyche.

Nearly a dozen pen and ink drawings by Lydia Rosier add realistic representation to the poetic memoirs of Hadley Read. They truly enhance the illusions of a rural lifestyle in an era too soon past.

Reviewed by Jeanne O'Leary, Economics, Statistics, and Cooperatives Service, USDA.

Sass, Lorna J. *Dinner with Tom Jones: Eighteenth-Century Cookery Adapted for the Modern Kitchen*. (New York: Metropolitan Museum of Art, 1977, 208 pp., \$7.95.)

Dinner with Tom Jones brings eighteenth-century cooking to the twentieth-century table. Inspired by the famous eating scene between Tom Jones and Mrs. Waters in Fielding's novel, Lorna J. Sass lays out a feast of 60 eighteenth-century recipes ranging from meats and puddings to soups and desserts. The author, a doctoral candidate in English at Columbia University who has written previous books on medieval and Renaissance cookery, succeeds in presenting her scholarly research with a light touch. The introductory essay on Georgian eating habits is both informative and witty, laced with quotations from travelers' accounts, cookbooks, magazines and contemporary doggerel. The recipes are all adapted for modern kitchen techniques but with greater care than most historical cookbooks. Indeed, in each case the original recipe is printed just above the modern one for easy comparison.

Although Ms. Sass maintains that most Englishmen ate well, it is clear that her recipes are drawn mainly from the dining rooms of the middle class and gentry, where elaborate, multi-course banquets were commonplace and overindulging a way of life. In the cities people

enjoyed not only traditional English dishes but also many foreign ones, especially French, and a number of these are included. It was a time of substantial change in British diets. Benefitting from the ongoing enclosure of open fields, farmers greatly increased animal production and made meat so readily available that foreign visitors marvelled at the amounts consumed. Grain prospered and wheat bread was eaten even by the poor. Vegetable production also expanded, especially around London. As the quality of food improved, the use of strong seasonings declined. Nevertheless, the differences between eighteenth-century and modern cooking are striking and well illustrated by these recipes. Such then common ingredients as rose water, orange flower water, anchovies, and capers gave many dishes a taste that borders on the exotic. For a quick appreciation of how unusual eighteenth-century cooking can be to our taste buds, try the cauliflower pudding or the apple tansey (an apple omelet flavored with rose water). There are more familiar foods, too—Yorkshire pudding, mince pie and Shrewsbury cakes. Curiously absent, though, is that old English standby, roast beef. The book also omits bread recipes, probably because by the eighteenth century most bread was purchased in bakeries.

As a practical cookbook, *Dinner with Tom Jones* is enhanced by clear directions, menu suggestions, a glossary, a bibliography, and hints on how to handle the sometimes unfamiliar problems that crop up in preparing food of this sort. All in all Ms. Sass has given us a fascinating look at another era by approaching it over a route not often followed by historians—through the stomach.

Reviewed by Douglas E. Bowers, Economics, Statistics, and Cooperatives Service, USDA.

Schultz, Theodore W., et al. *Lectures in Agricultural Economics; Bicentennial Year Lectures Sponsored by the Economic Research Service*. (Washington, D.C.: U.S. Department of Agriculture, Economic Research Service, 1977, ix, 165 pp., free.)

The Economic Research Service's Bicentennial Year Lecture Series is a collection of papers prepared with the intention of offering insights into some critical issues confronting agricultural economists today such as changing commercial agriculture in the United States, international trade, and growth in less developed countries.

The sessions opened with introductory remarks by Quintin M. West, head of the Economic Research Service, who gave a brief review of the development of agricultural economics listing early thinkers such as Adam Smith, David Ricardo, and Thomas Malthus, who viewed agricultural production as a major factor in the economy of their time. He also stressed the important changes occurring in the 20th century in agricultural economics within the United States—specialization in such areas as farm management, agricultural finance, agricultural marketing, use of natural resources, and rural development.

Of particular interest to this reviewer was D. Gale Johnson's optimistic assessment of the world food problem. Vital to increased food production in developing countries is greater input in resources and in improved technology. Except for emergency situations, Johnson advocates a type of grain insurance program as the primary component of a food aid program.

There was also an interesting presentation relating to the relationship between intellectuals and the federal government. Since 1862, the U.S. Department of Agriculture has been involved in the dissemination of useful information. In this regard, intellectuals have at

times played major roles in formulation of policy, research, and the dissemination of information. For example, during the 1930's intellectuals such as Rex Tugwell were involved in the formulation of New Deal agricultural policy. Under John F. Kennedy, action intellectuals such as McGeorge Bundy and Walter Rostow assumed key policy positions at the White House level; under Richard Nixon, the action intellectual was Henry Kissinger. Against this setting, Charles E. Bishop, former chancellor at the University of Maryland and President of the University of Arkansas, seems to have correctly perceived in his paper *The Fear of Knowledge* that "... anti-intellectualism has gained renewed strength in our country and ... this has foreboding portents for a society so heavily knowledge based." Bishop's essay also touches upon the improper attitudinal relationships between the institutions of higher education and the central institutional systems of the United States. He ends his paper with a broad warning, "our Nation can ill afford an extended period of estrangement between its scientists and its government."

Taken together these papers cover a variety of agricultural economic subjects. There is no index to this volume and only the papers presented by Theodore W. Schultz, Karle A. Fox, M. M. Kelso, and D. Gale Johnson are supported with what I believe to be adequate documentation. The references and notes accompanying the remaining papers range from weak to none at all, and this may be due to the nature and format of these presentations. For the avid consumer of agricultural economic thought, these papers make interesting and valuable reading.

Reviewed by Alan Fusonie, Science and Education Administration, USDA.

U.S. Agricultural Research Service. *Systematic Collections of the Agricultural Research Service*. (Washington, D. C.: Agricultural Research Service, U.S. Department of Agriculture, 1977, 84 pp. USDA Miscellaneous Publication No. 1343. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. \$1.90. Single copies may be requested from the Office of Governmental & Public Affairs, U.S. Department of Agriculture, Washington, D.C. 20250.)

Systematics studies form the foundation for research in the biological sciences. Systematics make identification possible by placing each organism in an orderly relationship with its fellows, showing the features, broad or minute, which differentiate it from those most nearly like it. Taxonomic, or systematic, studies allow an organism to be named. Since there can be no useful research without a correctly named entity, taxonomy and its sister science, nomenclature, are of equal importance. As stated in a 1971 report, *The Systematic Biology Collections of the United States: An Essential Resource*, "Because difference in kind reflects difference in structure, function, requirement, and relationship to the organic and inorganic world, the first step in any biological study is to identify the organisms under investigation. ... Systematic biology collections stand alone as information banks for the storage and retrieval of basic biological information."

During the past few years, there seems to have been an acceleration of interest in informing the research biologist about what resources are available to assist him with taxonomic problems. The above-quoted report to the National Science Foundation, Part 1, was published by the New York Botanical Garden, and listed the 20 major U.S. collections, summarizing their functions, importance, problems and future directions. In 1973, the Association of Systematics Collections began publishing its bi-monthly *ASC Newsletter*. The Association

also inaugurated a Biological Information Center at its headquarters in the University of Kansas Museum of Natural History, a main feature of which is a computerized Registry of Taxonomic Resources and Services. Although the coverage of this Registry of scientists and institutions able and willing to give taxonomic assistance is not yet very extensive, due to its newness (1977), many additional entries are expected to be made.

The agricultural sciences, especially, feeling the pressure of the world's needs for more and better agricultural products, have a greater than ever need for the fundamental resources of basic research. In view of this, the handbook, *Systematic Collections of the Agricultural Research Service* (now called Federal Research, under the Science and Education Administration, USDA), is a welcome addition to the growing list of finding aids for taxonomic researchers. It is a useful guide to the 13 biosystematic collections under its aegis. Pertinent data are detailed, including location, loan policies, number of specimens, curators and their specialties, and associated libraries. Historical and other background information is given, as well as notes on current research and service identification work, and selected lists of the achievements and publications of the associated staffs.

The collections themselves range in size from the joint USDA-Smithsonian Institution Entomological Collection, with its 24 million specimens and large staff, through the largest USDA Herbarium at the U.S. National Arboretum, to smaller but no less important specialized collections such as the cotton Herbarium at Texas A & M University, with 7,000 specimens and a single curator. There are plant and seed herbaria, and insect, animal parasite, nematode, fungi and micro-organism culture collections. All are carefully organized in an internationally recognized system for ease of reference, and stored under strict conditions necessary for optimum preservation. Besides their own research projects, scientists at the ARS (FS) collections provide identification of some 500,000 specimens each year. I predict that the publication of this handbook will have the unlooked-for effect of doubling the number of identification inquiries received annually by these facilities. At any rate, I believe that all libraries serving the biological research community should have this small reference volume on their shelves.

Reviewed by Jayne T. MacLean, Science and Education Administration, USDA, reprinted from *Agricultural Information Notes*.



(Amer. Agric., February 1862)



BOOK NOTES

The Forest Service: A Study in Public Land Management, by Glen O. Robinson. (Baltimore and London: Johns Hopkins University Press for Resources for the Future, 1975, 337 pp., \$16.95 hardcover & \$4.95 paper.)

This book covers every phase of land management—timber, recreation, wildlife, wilderness, and water and watershed management.

The Leasing of Federal Lands for Fossil Fuel Production, by Stephen L. McDonald. (Baltimore: Johns Hopkins University Press, Spring 1979, 208 pp., \$15.95 hardcover.)

Stephen L. McDonald, Professor of Economics at the University of Texas, discusses the dominant role of the federal government in future domestic energy production stemming from government ownership of offshore and on-shore lands bearing coal, oil, and gas. The importance to the economy of the terms and pace at which the federal government leases its fossil fuel resources is described in detail.

Simulation of Recreational Use for Park and Wilderness Management, by Mordechai Shechter and Robert C. Lucas. (Baltimore: Johns Hopkins University Press, Spring 1979, 240 pp., \$18.50 hardcover.)

Shechter and Lucas detail the results of large-scale testing on a model that simulates the travel behavior of wilderness users in one of the most densely used areas in the National Forest Wilderness System—the Desolation Wilderness of California. They not only include a description of the model but also discuss input data, validation tests, experimentation with the simulator, and use of the model in formulating and testing use-management policies. Of interest to policy makers and researchers, the material in this book is so well presented that it will also prove useful to managers of wildlands and other low density recreational areas.

The U.S. Forest Service: A History, by Harold K. Steen. (Seattle: University of Washington Press, 1976, xvi, 356 pp., \$15.00.)

Associate Director of the Forest History Society, Steen received a four year grant from the U.S. Forest Service to write the book which is an independent scholarly appraisal of resource policy in the United States. In addition to official files, Steen also used personal papers, oral histories, and records of other individuals and organizations that interacted with the Forest Service including those of the National Forest Products Association, the American Forestry

Association, the Society of American Foresters, and the American Forest Institute. His study describes the issues of commercial versus recreational uses of national forests and public regulation of forest practices on private lands.

Utilization of the Southern Pines, by Peter Koch. Agriculture Handbook 420. (Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1972, 1,663 pp., \$20.00 hardcover.)

Now available again after being out of print for several years, this two volume reference contains over 600 illustrations and a comprehensive index.

Western Forest Insects, by R. L. Furniss and V. M. Carolin. U.S. Dept. of Agriculture, Forest Service. Miscellaneous Publication 1339. (Washington, D.C.: U.S. Government Printing Office, 1977, 654 pp., \$8.75.)

There are three major parts to the book. Part one is devoted to insects and their environment. Part two provides the bulk of the text and deals with insects and their allies commonly found in Western forests. Part three contains a glossary of literature citations and a general index. A diagnostic host index is also included. There is an extensive bibliography; the literature search, however, ends in 1973 making the bibliography already five years out of date. The book is a good reference for anyone concerned with forestry in western North America.

World Guide to Tropical Drift Seeds and Fruits, by Charles R. Gunn and John V. Dennis. Illustrated by Pamela Paradine. (New York: The New York Times Book Co., 1976, 249 pp., illus., index, \$17.50.)

A tremendous seed collection begun in 1908 can be found within but is little known outside of the USDA. Thirteen years ago a collection of mysterious floating objects called seabears were sent from Miami, Florida, to USDA Plant Taxonomist, Charles Gunn at Beltsville, Md., for identification. His interest in this project soon expanded to include preparation of a comprehensive guide to seabears. Gunn and his coauthor Dennis provide the geographical origins and wanderings of seabears, bits of folklore, artistic uses, transport currents and collecting beaches, and a key to drift seed and fruit identification. The book has a glossary, bibliography, and subject index. Over 100 species are described and illustrated.



(*Encyclopedie Methodique.*
Art Aratoire..., 1802)

SOURCE GUIDES AND BIBLIOGRAPHIES

North American Forest History: A Guide to Archives and Manuscripts in the United States and Canada, compiled by Richard C. Davis. (Santa Barbara, California: Clio Books for the Forest History Society, Inc., 1977, xxi, 225 pp.)

This guide locates manuscripts and archival materials such as correspondence, reports, memoranda, diaries, journals, minutes, notes, memoirs, speeches, contracts and bills related to the forest history of the United States and Canada. It covers the lumber and forest products industries, forestry, conservation politics, wilderness preservation, and parks movements and associated topics. The author identifies the pertinent holdings of 358 libraries, archives, historical societies, and museums. More than 3,800 groups of manuscripts and records, including a large number of oral history transcripts and tape recordings, are described in detail.

The index refers the user to entry not page numbers while index citations are to the descriptive entries, not to the records themselves. Topical headings are divided into geographical (state or province) and chronological groupings. Regional subheadings are used only for material not specifically attributed to a state or province and cross references between these subheadings are provided.

The following bibliographies were published by and may be ordered from:

Council of Planning Librarians
P.O. Box 229
Monticello, Illinois 61856

Forest Environmental Resource Planning: A Selected Bibliography and Guide to the Literature, Elizabeth Ann Jones. Exchange Bibliography 1388, 1389, and 1390. November 1977, 158 pp., \$12.50.

Open Space Lands Preservation Techniques: A Literature Review of Innovative Methods, An Update, by James H. Pennabecker. Exchange Bibliography 1393. November 1977, 12 pp., \$1.50.

NEWS OF NOTE

PACFORNET Becomes WESTFORNET

On May 8, 1978, PACFORNET (Formerly CALFORNET) expanded its service to become WESTFORNET, a library-based information network, providing technical information services in the area of forestry and related disciplines. Four basic services include the following: current literature announcement, general document delivery, reference and referral, and computer-based literature.

The current literature announcement service is provided through the MONTHLY ALERT, a computer-printed list of about 200 citations of non-journal publications inclusive of conference papers, symposia, theses, trade books, research papers, technical reports, environmental impact statements, legislative hearings, bills, and new laws. Only journal articles of general interest are included. The ALERT is arranged in 14 subject categories and includes a species and subject index. Each issue becomes part of the master data base which represents the holdings of the participating libraries at the four Western Experiment Stations, the University of California at Berkeley, and the University of Washington.

SLA Forms Forestry Section

The Special Libraries Association (SLA) has created a Forestry/Forest Products Section within its Natural Resources Division. It will provide librarians and other information personnel in government and private industry with a mechanism for information exchange on products and services related to forestry. The new section sponsored its first program at the SLA annual conference in Kansas City last year.

MEETINGS

April 2-4, 1979

14th Congress on Agricultural and Forest Meteorology.
Minneapolis, Minnesota.
For general information contact:

D. G. Baker
Soil Science Dept.
University of Minnesota
1529 Gortner Avenue
St. Paul, Minn. 55108

May 15-17, 1979

The Seventh Biennial Workshop on Color Aerial Photography in the Plant Sciences and Related Fields will be held at the University of California, Davis. It plans to focus on application of color and color IR photography for vegetation damage assessment, land-use planning, vegetation mapping, and agriculture and resource management. Anyone interested in presenting a paper should submit title, summary, estimated presentation time (20 minute maximum), and visual aids required to:

William M. Ciesla
Program Chairman
U.S. Forest Service
Forest Insect and Disease Management
Methods Application Group
2810 Chiles Road
Davis, Calif. 95616

July 8-13, 1979

Forest Products Research Service 33rd Annual Meeting. Hyatt Regency Hotel, Embarcadero Center, San Francisco, California. The theme will be: "Problems, Opportunities and Responsibilities of the Forest Products Industry—1979 to 1999."
For further information contact:

Connie Walling
FPRS
2801 Marshall Court
Madison, Wisc. 53705

October 14-18, 1979

Society of American Foresters 1979 Annual Convention. Boston, Massachusetts
For further information, contact:

E. F. Robie, SAF
5400 Grosvenor Lane
Washington, D.C. 20014

June 19-21, 1979

Fifteenth Southern Forest Tree Improvement Conference will be held at Mississippi State University, Starkville, Mississippi. The theme will be "The Impact of Tree Improvement on Forestry in the South." Papers will be presented on genetic variation in southern trees, forest management practices, consequences of changing forestry practices including gene conservation, maintenance of genetic variability, technological advances, economics, land use, and the role of tree improvement.
For further details contact:

Dr. Sam B. Land, Jr.
Associate Professor of Forestry
Drawer FD
Mississippi State, Miss. 39762
(601) 325-2946

or

Dr. John A. Pitcher
Forestry Sciences Lab.
P.O. Box 906
Starkville, Miss. 39759
(601) 323-8162



("The Pinaster, or Cluster Pine" in John Aston Warder's *Hedges and Evergreens...*, 1858)



("The American Yew" in *Amer. Agric.*, November 1865)



To write about current legislation in a quarterly journal—which sometimes comes out biannually—is a difficult but interesting task. The actions of Congress sometimes come slowly. But then suddenly with an unusual burst of speed legislation is spewed out of their chambers. Secret agreements are made among legislators or special interest groups press home with their claims and the bills are passed without difficulty. Again sometimes Congress wrestles with an issue for years without taking any apparent action. Whatever the issues, the actions of Congress reflect our national priorities and following them is a way of seeing where we are going. This is especially true of the Alaska National Interest Lands. And for that reason in this issue we have chosen to focus on the (so called) D-2 bills.

Under the Alaska Native Claims Settlement Act of 1971 (P.L. 92-203) Congress agreed to review the land in Alaska and determine whether it should add more federally held land to the existing federal land conservation systems—the National Park System, the National Wildlife Refuge System, the National Forest System, and the National Wild and Scenic Rivers System. This Act itself grew out of some of the problems which developed as a result of the 1958 Alaska Statehood Act (P.L. 85-508) when Aleuts, Eskimos, and Indians—the Alaskan natives—made prior, original claims to the lands. To protect the Alaskan lands until Congress could conduct its review, and to preserve them for potential public use, the Native Claims Act also authorized the Secretary of the Interior to "withdraw" or limit the use of approximately 80 million acres of land in the "national interest." Until the review was completed these lands would not be available for commercial use or development, or any activities which would detract from their natural beauty or aesthetic worth. But the statutory authority for this withdrawal was to expire on December 18, 1978—this year. Thus in the 95th Congress a variety of legislation was proposed to deal with this issue. These are listed below.

As December 18 approached the controversy surrounding the interest lands increased. Numerous special interest groups pressed Congress with their own claims on Alaska, and suggestions as to how the lands should be dealt with. Because of the size and value of the lands, and their relatively natural state, the issue exploded into a national debate over preservation *versus* development. As W. Wendell Fletcher wrote, in an *Issue Brief* prepared for use especially by Congress,

Alaska is currently the scene of one of the major land conservation and natural resources legislative battles of this century. At issue is the question of how much of the vast Federal landholdings in the State should be placed off-limits to intensive resource development in order to protect scenic,

recreational, wildlife, and wilderness values. . . . The national interest lands issue has generated heated debate among many different and sometimes competing interests. These include environmentalists; Alaskan natives; other citizens of the State; commercial fishermen; and others. These groups have expressed radically different opinions not only about the amount of land that should be included in the "four systems," but also about which Federal agencies should manage which lands, the management role of the State, the activities that should be permitted on the protected lands, and about whether continued "subsistence" harvesting of plants and animals by those Alaskans who have traditionally lived off the land should be given priority over other activities such as sport hunting. (*Issue Brief* 77110)

How the nation would proceed to resolve these issues was reflected in the differing legislation introduced into the 95th Congress. Unfortunately, the Congress adjourned without settling the debate.

But the issue is not moot and the problems have not gone away. The Administration did take emergency measures to protect the lands beyond the December 18th deadline and may have in fact settled in an administrative manner what the Congress was unable to settle with legislation. But most of the bills listed below will be introduced again into the 96th Congress, when it convenes on January 15, 1979. In the meantime, on November 16th the Secretary of the Interior, acting under emergency powers granted him by the Antiquities Act of 1906, withdrew 110 million acres from further use. He then recommended to the President that 56 million acres be set aside as part of the National Park System, and an additional 44 million as part of the National Wildlife Refuge System. On December 1st, President Carter designated the following areas as Alaskan National Monuments:

- Admiralty Island
- Aniakchak
- Becharof
- Bering Land Bridge
- Cape Krusenstern
- Denali
- Gates of the Arctic
- Glacier Bay
- Katmai
- Kenai Fjords
- Kobuk Valley
- Lake Clark
- Misty Fjords
- Noatak
- Wrangell-St. Elias
- Yukon-Charley
- Yukon Flats

He has since taken action on the recommended 44 million acres for inclusion in the Wildlife Refuge System. Some have said that the actions taken by the Carter administration in support of the National Park System and the National Wildlife Refuge System may be the most significant actions he could take as President. History will be that judge. Nevertheless there are other issues still to be decided. Representative Udall has vowed to reintroduce his bill and others will no doubt follow suit. Watch for variations on these bills in the next Congress.

H.R. 39
MR. UDALL, ET AL.

OFFICIAL TITLE AS INTRODUCED:

A BILL ENTITLED ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT.

ABSTRACT AS INTRODUCED:

Designates specified public lands and waters in the State of Alaska for inclusion in the National Park, National Wildlife Refuge, Wild and Scenic Rivers and National Wilderness Preservation Systems. Makes provisions for the management of subsistence uses of fish and wildlife on national lands.

CHRONOLOGY:

- 10/9/78 Reported to Senate from the Committee on Energy and Natural Resources with amendment, S. Rept. 95-1300
- 6/8/78 Referred to Senate Committee on Energy and Natural Resources
- 5/19/78 Measure passed House, amended (inserted text of H.R. 12625), roll call #340 (277-31)
- 5/19/78 Motion to recommit to the Comm. on Mer. Mar. & Fisheries with instructions rejected in Hse, r.c. #339 (67-242)
- 5/19/78 Motion to recommit to the Comm. on Int. & Insular Affairs with instructions rejected in Hse, r.c. #339 (67-242)
- 5/19/78 Measure considered in House
- 5/18/78 Measure considered in House
- 5/17/78 Measure considered in House
- 5/17/78 Measure called up by special rule in House
- 5/4/78 Reported to House from the Committee on Merchant Marine and Fisheries with amendment, H. Rept. 95-1045 (Part II)
- 4/7/78 Referred to House Committee on Merchant Marine and Fisheries
- 4/7/78 Reported to House from the Committee on Interior and Insular Affairs with amendment, H. Rept. 95-1045 (Part I)

H.R. 1652
MR. DINGELL

OFFICIAL TITLE AS INTRODUCED:

A BILL TO DESIGNATE CERTAIN LANDS IN THE STATE OF ALASKA AS UNITS OF THE NATIONAL WILDLIFE REFUGE SYSTEM.

ABSTRACT AS INTRODUCED:

Designates specified lands in Alaska as units of the National Wildlife Refuge System, to be administered by the Secretary of the Interior.

S. 500
MR. JACKSON, ET AL.

OFFICIAL TITLE AS INTRODUCED:

A BILL TO DESIGNATE CERTAIN LANDS IN THE STATE OF ALASKA AS UNITS OF THE NATIONAL PARK, NATIONAL WILDLIFE REFUGE, NATIONAL WILD AND SCENIC RIVERS, AND NATIONAL WILDERNESS PRESERVATION SYSTEMS.

ABSTRACT AS INTRODUCED:

Designates specified public lands and waters in the State of Alaska for inclusion in the National Park, National Wildlife Refuge, Wild and Scenic Rivers and National Wilderness Preservation Systems. Makes provisions for the management of subsistence uses of fish and wildlife on national lands.

S. 1787

MR. STEVENS, ET AL.

OFFICIAL TITLE AS INTRODUCED:

A BILL RELATING TO THE CLASSIFICATION OF CERTAIN LANDS WITHIN THE STATE OF ALASKA.

ABSTRACT AS INTRODUCED:

Designates specified public lands and waters in the State of Alaska for inclusion in the National Park, National Wildlife Refuge, Wild and Scenic Rivers, and Federal Cooperative Lands Systems.

Establishes the Alaska Land Classification Commission to perform managerial and administrative functions with respect to public lands within the State of Alaska.

S. 1500

MR. METCALF, ET AL.

OFFICIAL TITLE AS INTRODUCED:

A BILL TO DESIGNATE CERTAIN LANDS IN THE STATE OF ALASKA AS UNITS OF THE NATIONAL PARK, NATIONAL WILDLIFE REFUGE, NATIONAL WILD AND SCENIC RIVERS, AND NATIONAL WILDERNESS PRESERVATION SYSTEMS, AND FOR OTHER PURPOSES.

ABSTRACT AS INTRODUCED:

Designates specified public lands and waters in the State of Alaska for inclusion in the National Park, National Wildlife Refuge, Wild and Scenic Rivers and National Wilderness Preservation Systems. Makes provisions for the management of subsistence uses of fish and wildlife on national lands.

Other Relevant Bills:

H.R. 2: MR. UDALL, ET AL. *SURFACE MINING CONTROL AND RECLAMATION ACT.*

H.R. 3199: MR. ROBERTS, ET AL. *FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS.*

H.R. 5605: MR. SEIBERLING. *WILDERNESS AREAS.*

H.R. 6655: MR. REUSS, ET AL. *HOUSING AND COMMUNITY DEVELOPMENT ACT.*

H.R. 7171: MR. FOLEY, ET AL. *AGRICULTURAL ACT.*

H.R. 8309: MR. JOHNSON (CALIF.), ET AL. *NAVIGATION DEVELOPMENT ACT.*

H.R. 10467: MR. MEEDS. *ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT.*

H.R. 10888: MR. MEEDS. *ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT.*

H.R. 12625: MR. UDALL, ET AL. *ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT.*

H.R. 12703: MR. MEEDS. *ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT.*

H.R. 13059: MR. ROBERTS, ET AL. *WATER RESOURCE DEVELOPMENT ACT.*

S. 7: MR. METCALF, ET AL. *SURFACE MINING CONTROL AND RECLAMATION ACT.*

S. 977: MR. JACKSON, ET AL. *COAL SUBSTITUTION INCENTIVE ACT.*

S. 1523: MR. PROXMIRE, ET AL. *COMMUNITY REINVESTMENT ACT.*

S. 2465: MR. JACKSON (BY REQ.), ET AL. *ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT.*

S. 3016: MR. GRAVEL, ET AL. *ALASKA NATIVE CLAIMS SETTLEMENT ACT AMENDMENTS.*

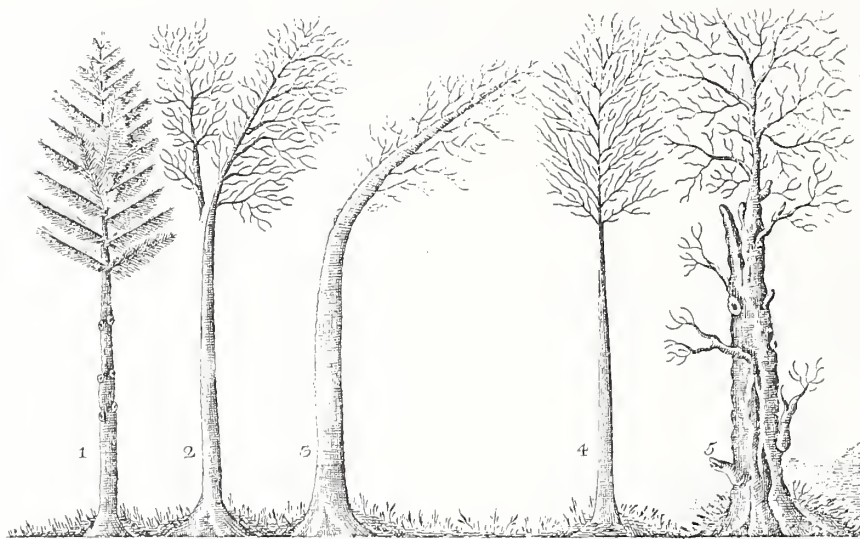
S. 3084: MR. PROXMIRE. *HOUSING AND COMMUNITY DEVELOPMENT AMENDMENTS.*

Additional References:

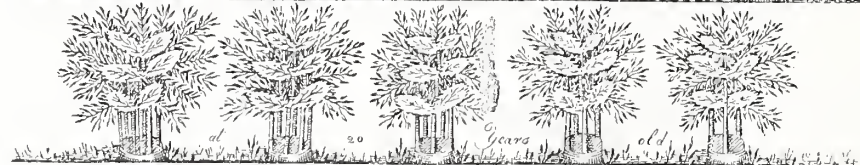
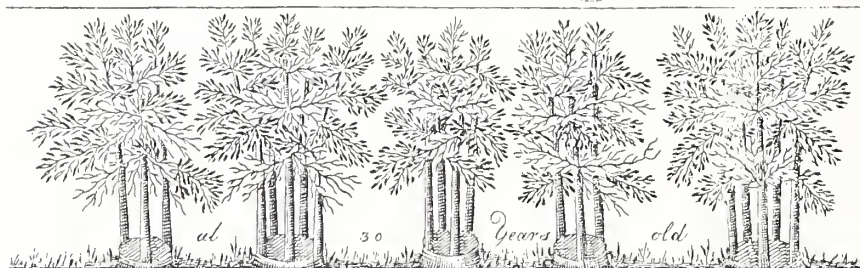
"Presidential Proclamations on Alaskan National Monuments" in the *Federal Register*, Tuesday, December 5, 1978, Part III, p. 57009 and following.

"Final Supplement to Final Environmental Impact Statement on the Alaska National Interest Lands Proposal" in the *Federal Register*, Tuesday, November 28, 1978, page 55471.

"Alaska National Interest Lands (D-2) Legislation," by W. Wendell Fletcher, Environment and Natural Resources Policy Division, Library of Congress, Congressional Research Service; *Issue Brief* IB77110 (Restricted Circulation).



ENGRAVED. for *Monteath's Foresters Guide*



Coppice trees -

(Pruning and growth in coppice trees of fir, oak, and ash or beech
from Robert Monteath's *Forester's Guide and Profitable Planter...*,
1820)

The Associates of the
National Agricultural Library, Inc.
10301 Baltimore Blvd.
Beltsville MD 20705

THIRD CLASS MAIL

PRINTED MATTER





1022218902



1022218903



1022218904



1022218905



1022218906



1022218907



1022218908



1022218909



1022218902



1022218903



1022218904



1022218905



1022218906



1022218907



1022218908



1022218909